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COMMUNICATIONS.

NASAL POLYPI.

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Properly, the term "nasal polypi" is employed to describe myxomata or mucous tumors found within the nasal fossæ. By "nasal fossæ," are understood the two chambers, separated by a septum, limited in front by the so-called "anterior nares" or openings of the nose, and at the back by the "posterior nares" or openings into the upper pharynx and naso-pharynx at the posterior border of the septum.

Almost all tumors found within the naso-pharyngeal cavity proper are fibrous or fibro-mucous polypi, having a structure more or less dense and hard; and the great majority of growths found in the nasal cavities are mucous polypi. Papillomata, enchondromata, osteomata, and other tumors of the nose are exceedingly rare, and consequently do not require to be commented upon in this connection.

The term nasal polypi indicates: (1) The habitat of the tumor; (2) the fanciful resemblance of it to the group of radiates or zoophytes peculiar to the animal kingdom that bear the title of *polyps*.

These growths vary in size from a small pea to a marble or larger, and are generally attached by pedicles, though sometimes they are also found of sessile nature. In the main, too, they are more or less pear-shaped; or, as Dr. Markham expresses it, resemble in form, color, and consistency the "expressed pulp of the grape." Sometimes, however, very odd and irregular shapes are assumed, more especially when two or more coalesce at an early stage of their existence, ultimately developing as a single growth. The last kind, nevertheless, is of somewhat rare occurrence.

The bony walls of the nasal cavities and naso-pharynx are lined with a fibrous layer which has all the functions of periosteum, the superficial stratum alone being mucous. The former is thicker and more fibrous at the base of the skull, in the upper part of the naso-pharynx; consequently the origin of fibromata generally is there. In the vault of the nasal cavities, where the termini of the olfactory nerves are spread out, this membrane is thin; upon the septum, and also the floor of the nasal passages, the membrane is not of marked thickness or development; consequently, neither of the places is often the seat of polypi.

The mucous membrane covering the turbinated bones, especially the middle turbinated, and the meatus which they overhang, is decidedly thickened and vascular, and here acinous glands are abundant. Beneath the superficial layer of mucous membrane is found connective tissue. Upon the surface epithelium are *cilia*, which vibrate toward the posterior nares and serve as strainers for respired air. Here, again, where the mucous membrane is thick and vascular, is found the source of nearly all mucous polypi, and, like all such growths, they partake of the character of the material from which they spring.

Regarding the histology of these growths, Leiter remarks: "They are localized hypertrophies of mucous membrane which has undergone myxomatous degeneration"; a statement echoed by Hartmann. Billroth says they retain the elements of the mucous

membrane from which they spring, the glandular element sometimes predominating, sometimes the connective-tissue element. Gross employs nearly the same words as Leiter. Lefferts corroborates these statements in the following words: "They are enlargements of the acinous (grape-like) glands, with attendant hypertrophy of submucous tissues, and covering mucous membrane with serous infiltration, so that the membrane is pushed or drawn out by the gradual increase of the growth—in other words, localized hypertrophy."

Regarding the site of polypi, careful examination of the statistics and observations of various writers reveals the following: 1. Growths of this character positively never arise from the vault or floor of the nasal cavities. 2. They are of extremely rare occurrence in connection with the nasal septum. 3. Are seldom or rarely connected with the inferior turbinated bone. 4. Generally are from the superior meatus, middle turbinated bone, and middle meatus.

The first statement is based upon the fact that careful examination of voluminous (periodical as well as text-book) literature of the past half-century fails to reveal a single case. This is of especial interest in connection with the causes which produce them, of which more further on.

Of the second, authors are generally reserved in opinion; but the discovery of seven cases recorded is evidence of the possibility of such occurrence.

Of the three last, the middle meatus is the region most frequently infested. But, before citing further evidence in this connection, permit me to call attention to a few essential facts:

It must be remembered the middle meatus is situate beneath the overhang of the middle turbinated bone, and that in this meatus is found the gap or opening known as the *hiatus semilunaris:* that into this hiatus the maxillary sinus has its outlet, as have also, through the infundibulum, the frontal sinuses and inferior cells of the ethmoid. In other words, very nearly (or perhaps quite) nine-tenths the area of the air-spaces or cavities surrounding the nasal passages opens into this middle meatus.

Zuckerkandl, in thirty-nine autopsies, determined the nasal fossæ as the exact seat of forty-two polypoid growths or series of growths. Of these, 14 originated at the edge of the *hiatus semilunaris;* 8 at the outlets of the cavities opening into the *hiatus;* 10 in the middle meatus proper; and 4 from the middle turbinated bone. In short, 85.7 per cent. originated in the region of the middle meatus or middle turbinated bone.

Polypi, when found attached to the nasal septum, an exceedingly rare occurrence, as before remarked, are almost invariably adherent to the posterior portion thereof, and in the erectile-tissue area so ably described and demonstrated by Professor Bigelow, of Harvard, within the past decade.

The period of life during which nasal polypi appear is generally given as between the ages of sixteen and seventy. Regarding the latter, I may be permitted to express some doubt, since senility is not favorable to such growths, and, when discovered, they are probably of some years' standing. As regards the former, Dr. Ingalls, of Chicago, records a case in which the polypi originated in the thirteenth year; Morell Mackenzie, giving the statistics of two hundred cases, never encountered a polypus in individuals under sixteen years of age; Bosworth reports two cases in adolescents, however, one eleven years old, the other fifteen years old; and Mason reports one at twelve years.

Strangely enough, the first case that came under personal observation was that of a German lad in his fourteenth year; and the first presented to my brother, Dr. Charles Bliss Stockwell, was that of a boy only eleven years and three months old, and the attention of the parents was called to the growth by the fact it was about protruding from the anterior nares. Neither of us has since observed a case in a person of less than eighteen years of age.

As to sex, careful comparison of statistics reveals that males are much more prone to the disease than females, the proportion being sixty-seven per cent. in favor of the former.

Again, with regard to frequency of occurrence. Zuckerkandl—who, so far as I am aware, is the only person who has manifested sufficient interest in the pathology of nasal polypi to undertake autopsies with the especial view of adding to our stock of information regarding such growths—declares that he found polypi in an average of one of every eight post-mortems.

Almost invariably nasal polypi appear in clusters and in both fossæ: authors universally unite in the declaration that a single polypus is of such rare occurrence as to be almost phenomenal, and I know of no reason for combating or criticizing the statement.

In reviewing the character of polypi, and their effects as produced upon the human economy, it is discovered their relations are

of more especial interest to general practitioners than is perhaps often surmised, and for the following reasons: 1. All nasal polypi possess hygromic or hygroscopic characteristics, by which they absorb moisture in damp atmospheres, and give it off again in dry weather. Swollen by respiratory gases saturated with moisture, if possible they more tightly cork or occlude the chief chamber of the nasal apparatus, and the openings of cavities adjacent thereto. In this way an existing discomfort is increased. 2. The presence of polypi, by the irritation produced, induces greater or less secretion of mucus, according to circumstances. 3. By closing the nasal passages, they prevent mucus from passing back to the pharynx, as nature intended it should, giving a backward dip to the floor of the nasal fossæ, and a downward and backward inclination to the turbinated bones. 4. Air, in its passage to the lungs, instead of being warmed by the radiating vascular turbinated plates, is, owing to obstruction afforded by polypi, forced to seek ingress by the mouth. By this means, the lungs receive respiratory gases at a lower temperature than is proper, and such as, moreover, are improperly filtered, which is never the case where the nasal passages remain unobstructed. Here we see the reason why, with certain diseases of the nasal passages and upper pharynx, pulmonary involvement so frequently appears as a sequel.

The connection between nasal polypi and asthma is oftentimes very intimate, as has been ably demonstrated by Voltolimi and Joal; indeed, the latter is not infrequently wholly dependent upon the former. And here permit me a suggestion in passing:

Note how frequently, at times, an asthmatic attack disappears when relief is obtained from a coryza; or how a case of bronchitis is relieved by removing some cause which has the effect of obstructing the nasal passages. Mark, too, how readily a paroxysm of "hay-asthma" yields when the puffiness and irritability of the erectile tissue of the posterior portion of the nose are remedied—quieted, for instance, by a spray of volatile oil of eucalyptus or solution of erythroxylo-caffeina, permitting the air once more to find its way by the natural passage to the lungs! When the mechanical obstruction is removed, the wheezing and inharmonious rasping of the bronchi quickly cease; and in many, perhaps a majority, of the cases, the asthmatic groanings and creakings are cries for nasal relief. The asthma itself may be produced as the sequel of mechanical obstruction, or merely an irritation derived from reflex cause.

Polypi may, and often do, so obstruct the lachrymal duct by pressure, as to cause flooding of the eyes, and this may be the first indication of their existence. Again, headache is induced, the severity of which depends upon like or similar causes, and is manifested by drooping lids and dull and suffused eyes: here there is a closing of the infundibulum or ostium frontale, preventing proper ventilation of the frontal sinuses. The frontal headache attendant upon so-called "cold in the head" is of this class, regardless of the presence of actual polypi, and may often be relieved by the use of Politzer's air-bag, employed in the same manner as in inflation of the middle ear through the posterior pharynx and Eustachian tube: the ventilation of the frontal sinus relieves congestion which has resulted upon temporary closure of the openings. Persistent cough, too, is frequently a condition or symptom, relieved by the removal of polypi which, alone or by their secretions, cause tickling of the posterior pharynx, and induce thickening of the palatine tissues. Sneezing is oftentimes another indication of the presence of such growths, bearing in mind, however, the application of the old saw: "All rabbits are hares, but all hares are by no means rabbits."

It is even possible for polypi to cause marked disfigurement of the nose and face, though, happily, this is rare. This is true of the German boy before noted as being my first patient of this class. He is now grown to man's estate, and would never permit any attempts looking to permanent removal of his troubles. However, his physiognomy was such that polypi were unable to work any material change for the worse. Recently, a second case came under observation, under the care of a brother practitioner, in which the bridge of the nose was greatly broadened, and to such a degree as to present the typical so-called "frog-face." In this case, the trouble began thirty-five years before, or when the patient was about the age of nineteen or twenty. Marked deformity, however, is of infrequent occurrence, except when the trouble is of long standing and is induced before the full growth and development of the individual were attained. Morell Mackenzie declares: "Facial disfigurement is so rare that it may be dismissed from consideration"; and some authors have been at pains to deny its occurrence altogether.

I must confess, moreover, to have been among the skeptics until convinced to the contrary by ocular evidence. Evidently, like all rules, those referring to polypi are capable of exceptions.

Epileptic convulsions I find cited as one of the evidences and results of polypoid growths, but such are necessarily of greater rarity than face-distortion, and are of reflex origin; hence they are deserving of merely passing mention. The primary cause of polypi is among the many things open to conjecture. Morell Mackenzie frankly admits his ignorance, and Bosworth is equally frank. Two writers suggest their production to be the sequel of long-continued swelling and infiltration of the mucous membrane from which they spring. Be this as it may, the causes undoubtedly are many and varied; they may be dependent upon either general or local mal-nutrition or reflexes. Further, careful examination of the surroundings and locality of the habitat of such growths, while it may not reveal absolute causes, certainly affords some clue to effects.

Note that the middle and superior turbinated bones are portions of the ethmoid. The ethmoid cells, moreover, are developed about the fourth or fifth year of childhood. In the formation of these cells, the spaces in the upper portions of the nasal cavities are probably encroached upon, and the process of narrowing the recesses by the bending and twisting of the cartilaginous and bony plates is evidently now inaugurated. That this encroachment increases with physical development and growth is not to be gainsaid; hence, that it is a factor in polypi-production would seem evident from the fact that growths do appear as early as the eleventh year. Two surfaces touching one another may induce irritation and secure an increased flow of mucus. The surfaces thus approximated readily retain portions of the excreted material, the flow of which is stimulated. Accumulated mucus always becomes more or less inspissated; and such a tenacious clinging mass, dragging upon the mucous lining where it is vascular and plentifully provided with connective tissue, evidently may, and does, at times, cause a yielding which results in the development of polypi. From the statistics already given, based upon examinations of cadavers, the actual attachments in thirty-six out of forty-two cases were at points over which the mucus from the cavities adjacent to the nasal fossæ must flow.

Among the causes necessary to the production of polypoid growths, then, we appear to have: (1) Narrowing and contraction of certain portions of the nasal cavities; (2) irritation of mucous membrane; (3) mucus more or less inspissated, and therefore tenacious; (4) a vascular surface well supplied with connective tissue, and capable of being dragged upon by tenaciously-adherent mucus acting as a mechanical force!

When there is no irritation in the nasal passages, no crowding of one part by another, and when all the cavities and the meatus are readily reached by the to-and-fro currents of air, excessive moisture and excessive mucous accumulation, and the apparently essential conditions to polypus-production, do not exist. In the young (prior to the tenth or eleventh year), excessive secretion and other abnormal conditions favorable to such growths may have place, but it is probable there is greater tonicity and firmness of mucous tissue, not easily overcome by accumulated and dragging secretion; and certainly the amount of connective tissue is less.

The symptoms of nasal polypi demand no especial mention, since they have already received general attention in speaking of effects. And definite diagnosis, of course, must be had as the sequel of ocular inspection of the nares. Examination through the anterior nares, made by means of the forehead mirror and speculum, or, better yet, a pair of curved dressing-forceps in lieu of the latter, will invariably disclose polypi, if such exist, and they always appear as white and glistening, or pearly-white, obstructions. If, as is sometimes desirable, the posterior nares are to be inspected, a rhinoscopic or the smaller laryngeal mirror is employed. The condensation of moisture upon the latter during use is readily obviated by warming slightly over a lamp. If, on touching the supposed growth with the blunt end of a probe, the point under impact yields, or the body is movable, there can be little doubt as to the correctness of prior conclusion.

Many methods of treatment have been suggested from the time of Hippocrates down to the present. Four hundred and eighty years before our era, the "Father of Medicine" employed sponges for this purpose, attached to cords passed through the nose to the posterior pharynx and returned through the mouth; by traction with a reverse movement, the growths were brought forward with the sponge. Galen employed astringents; Celsus the actual cautery; Paul of Ægina the knife and tenaculum; William

of Salicet (1546) was the first to introduce evulsion by forceps, a method that yet holds its own with general practitioners, as well as with many teachers. One hundred and fifty years subsequently, Valsalva suggested the removal of a lamilla of bone for the purpose of preventing the recurrence of polypi. Robertson (1805) invented and employed the snare. Finally we find no less than six methods still advocated, viz.: 1. The method of Hippocrates; 2. Removal by snare; 3. Evulsion by forceps; 4. Galvano-cautery; 5. Topical application of astringents; 6. Caustics and escharotics.

(1) To revive the first has recently been sought by McRuer, of Maine; but the method obviously has nothing to recommend it and meets with little if any favor. (2) Snaring of late years is generally performed by means of wire *écraseurs*, notably those of the Jarvis pattern. The introduction of the loop is not always easily or readily accomplished, is productive of more or less pain, and, after adjustment, the suffering produced by tightening and the process of removal is sufficient to prevent the patient from undergoing a second torture usually necessary to clear wholly the nasal passage of morbid growths. (3) Evulsion by forceps, for all it has held its place for many years, and is so extensively taught and recommended, even by some of the most eminent members of the profession, is a most barbarous procedure, and withal uncertain, unsatisfactory, and dangerous. Not only is the pain evolved thereby often most excruciating, but free hemorrhage obstructs the view after the first effort, and the operator is compelled to grope blindly for that which cannot be discerned. Not infrequently it results in tearing and lacerating healthy tissues. Such surgery is only comparable to that of the Indian *powah* who, with a pair of bullet-molds, tore away a soft palate and elongate uvula to relieve a hacking cough. The end does not justify the means, considering the other methods available. Again, most polypi spring from the region of the middle meatus, and ordinary forceps cannot reach the pedicle. Even though the turbinated bones be wrenched from their attachments or removed piecemeal, the growths invariably return. It is a question, to my mind, whether evulsion does not favor subsequent production of these bodies.

(4) The galvano-cautery is open to the same objection as the snare, and is even more tedious and painful, and especially liable to injure surrounding and sound tissues. Further, it is an appliance of the specialist rather than the general practitioner.

(5) Astringents, especially tannic acid, are recommended by an authority no less eminent than Thomas Bryant, who advises their application to the growths by insufflation. Twenty years since, I employed tannic acid in two cases with excellent results; subsequently it proved a complete failure so far as removal was concerned, though generally procured more or less temporary relief; it is palliative rather than curative.

(6) Caustics at the present day meet with favor, especially glacial acetic, carbolic, and nitric acids, and tincture of iodine. The former (glacial acetic acid) is especially satisfactory, save for the pain induced, and the difficulty of confining it to the growth alone. The others are open to like objections, and the additional one of unpleasant fetor arising from the slow death induced. Of late years chromic acid has proved most satisfactory in my hands, as it is totally devoid of the unpleasant features accruing to other caustics and escharotics, since its properties are limited to the growth to be removed. It is a solvent of animal tissue, but rapidly loses one-half its oxygen, whereby it becomes a harmless sesquioxide, so that care is required only at the instant of application. Even should it touch sound tissue, a bit of cotton, wound on a probe and dipped in a four per cent. solution of cocaine, obviates all unpleasant consequences. Again, chromic acid is antiseptic and disinfectant; is ten times stronger than carbolic acid; fifteen times stronger than nitric; twenty times stronger than mercury bichloride. The pain resultant from its application is merely nominal.

A saturated solution of chromic acid made fresh with water (*beware of touching with alcohol unless an explosion is desired!*), or the crystals merely moistened, may be applied by means of a fine glass rod or glass brush, or a bit of cotton wound about a slender gutta-percha probe. No especial skill is required. Reflected light obtained by the forehead-mirror should be employed, however, to illuminate the interior of the nose, and the view enlarged, if necessary, by the introduction of the tips of a pair of curved dressing-forceps. The growth absorbs the acid quickly, which insures its death, and the polypus comes away spontaneously in a few hours, or, at most, a few days, a second application being rarely required. Dr. Donaldson, who employs chromic acid, remarks that his invariable custom is to bathe and wash out the passages with lead-water

before applying the escharotic. This I have never done, and apparently no especial advantage is to be derived therefrom. As there are usually several polypi, as soon as one is removed, those behind should be attacked in the same way. Some few patients who had been treated by evulsion have spoken with great complacency of the use of chromic acid, as being pleasanter and nearly devoid of pain. Since it is so nearly painless, invariably effective, and does not upset or frighten either the timid or nervous, and is always within the reach of the general practitioner without especial aids or appliances, it cannot but commend itself.

THE CUTANEOUS EFFECTS OF QUININE.

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The cutaneous effects of quinine and its allies are not frequently met with, and probably for that reason but little is said of them in the books. Yet when they do occur, they are the source of extreme annoyance to the patient, and very likely of much perplexity to the practitioner, who, when he has administered a dose of any of the alkaloids of cinchona as an antiperiodic, for example, finds, on the following day, as was once my ill-fortune under similar circumstances, that, while the malarial manifestations have disappeared, they have been replaced by certain cutaneous symptoms more disagreeable than those of the original disease, and which he is unable to trace to their source. And when, after repeated administration of the remedy in the same case, he has established to his own satisfaction the relation of cause and effect between the drug and the symptom, he is fortunate if the confidence of the patient in him has not been impaired to such an extent as to prevent his ever having an opportunity to verify his diagnosis by a repetition of the experiment in subsequent attacks

The forms of cutaneous eruption which have been met with as the result of the administration of Peruvian bark or its alkaloids are numerous and varied. Nearly all of them, however, may be included under the heads of erythematous, urticarial, eczematous, or purpuric.

The *erythematous* form is probably the most common. Out of 60 cases reported by Morrow, 38 were of this variety. These were generally described as scarlatinal, but occasionally as rubeolar or erysipelatous.

The scarlatinaform eruption was first described by English authors. In Gassaway's case, it was accompanied by œdema of the face. In Heming's, it came on after the administration of one grain of quinine, was attended with intense itching, præcordial oppression, and a coated tongue, and was followed by slow desquamation. Skinner saw it appear in a woman after taking one grain, or even half a grain. It was accompanied by shivering and a violent chill, and was followed by desquamation lasting three months. Veeder reports a case in which the condition of the skin very closely resembled that of scarlatina. The patient had been taking small doses of quinine for several days, for a supposed malarial disorder, without consulting any physician. Becoming alarmed at the appearance of the rash, a medical man was called in. He found feverishness and general malaise, in addition to the scarlatinous erythema; but, fortunately suspecting the cause, he at once ordered the discontinuance of the quinine, when the rash promptly disappeared. It returned repeatedly, however, when, for the purpose of testing the correctness of his theory, quinine was given in small doses. Dr. Levassor describes a case in which there were high fever, rapid pulse, headache, and general malaise. The eruption soon appeared, and involved not only the integument, but also the mucous membrane of the fauces, but was not accompanied by pain or by any swelling of the tonsils. To complete the resemblance, it was followed by desquamation at the end of four days. Its true nature was not discovered until its reeurrence some time later, after a second dose of quinine.

My own case, reported in the *Medical Record* of June 10, 1882, was similar to this in many respects, but its resemblance to a typical case of scarlatina was even more marked. The subject was an Irish domestic, having red hair, blue eyes, and a fair skin, who was suffering from tertian ague. Five grains of quinine or quinamine three times a day were sufficient to prevent the return of the chill, instead of which she suffered the next day from a diffuse erythematous eruption, which began upon the chest and arms, and spread over the entire body. On the forearm there were numerous miliary vesicles. There was also intense itching, with a high temperature—of which, however, much to my subsequent regret,

I kept no record. On the fourth day from the first administration of quinine, the symptoms continuing to increase in severity, a consulting physician of wide experience was called, and he unhesitatingly pronounced the case to be one of scarlet fever. At this time, it must be confessed, there seemed to be good ground for this diagnosis, as the rash was of a scarlet hue, the itching was intolerable, the febrile symptoms were moderately severe, and the tongue presented the typical strawberry appearance. The fauces were somewhat injected, but there was at no time any noticeable soreness or swelling of the throat. Recovery took place in due time, and was followed by copious desquamation. Soon after this, the patient was again attacked with chills and fever, and, on taking quinine, she suffered from a return of the scarlatinous erythema and accompanying febrile symptoms. Twice afterward —making four times in all—she underwent a similar experience, until all parties concerned were fully convinced of the cause.

The *urticarial* form of quinine-rash is represented in Morrow's list by twelve cases. These presented the typical wheals of urticaria, with œdema and puffiness of the face, which, in a representative case, were brought on by a single two-grain dose of quinine. There was also a sense of oppression in the chest, and a most intolerable burning and itching over the entire surface of the body. The symptoms subsided within twenty-four hours, but recurred upon a repetition of the dose. The patient was in this instance himself a physician, who had formerly practiced in a malarial district, and had been accustomed to taking large doses of quinine without any unusual effect.

Numerous cases have been reported of the *eczematous* form, as well as of a combination of the erythematous, papular, vesicular, and pustular varieties with the eczematous. Denk reports one in which the papules, developed upon an erythematous base, were transformed into vesicles, with the general features of an eczema. After the discontinuance of the drug, the vesicles dried up, and desquamation followed. In some cases, the vesicles burst and form thick crusts, simulating still further the features of an acute eczema.

The *purpuric* form is very rare, and consists of small ecchymotic spots like ordinary purpura, either localized or generally diffused. In Vépan's case, which was that of a woman suffering from neuralgia, these spots developed all over the body in two days after taking five grains of quinine in two doses, and disappeared nine days after the discontinuance of the remedy. This was repeated several times, the symptoms varying in intensity with the size of the dose. Morrow has observed the purpuric eruption in a boy of twelve years of age, following the administration of quinine for malaria; five three-grain pills were taken the first day, four the second, three the third, two the fourth, and one the fifth. Before this course was completed, purpuric spots had made their appearance on various parts of the body, but most abundantly on the lower extremities.

Still other forms of quinine-rash have been met with, though but rarely. Among those which have been described are the roseolar, bullous, and gangrenous.

Not only has the quinine exanthem resulted from the internal administration of the drug, but similar eruptions have been known to follow its external application, as in the case of workers in quinine-factories, and persons using ointments, pomades, and washes containing quinine. This suggests that the result in all cases may be due to the local action of the drug upon the skin, either directly when used externally, or by elimination through the glandular system when given internally. It will probably be found, also, that more cases occur in persons having sensitive skins than in tough-skinned individuals. Certain it is that the majority of cases reported have been in women and children, in whom the cuticle is more sensitive than in adult males. In my own case, the subject had red hair, blue eyes, and a light and sensitive skin. It would be interesting to know how this may have been in other cases, but, so far as I am aware, these facts have seldom been noted.

The appearance of the quinine exanthem is said to be more common in summer than in winter, and to affect eczematous persons most frequently. The liability—or idiosyncrasy — may be either hereditary or acquired. Future observations in these directions are needed before a satisfactory theory can be formed.

—Prof. Billroth, who led the opposition, a few years ago, to the admission of women to the Continental medical schools, has created something of a sensation in Vienna, it is reported, by having Dr. Grace Walcott and three other American women physicians repeatedly in attendance at his private clinic lately, to witness his own operations.

THE ETHICS OF OPIUM HABITUÉS.

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In a paper by the writer, on "The Ethics of Opium Habitués," read before the Society of Medical Jurisprudence and State Medicine, New York City, June 14, 1888, and reported in the REPORTER July 7—reprint at command—attention was called to the prevalent opinion that all opium habitués are liars—an opinion that the writer declared, from his experience, to be unjust and untrue.

Distinctly asserting that the purport of his paper did *not* apply to "those who, viciously indulgent, and lacking alike in principle and purpose, take opium from mere sensual desire," he held that the statement "no morphia habitué can be depended on to tell the truth" was "so often at variance with the fact, that it must be the outcome of an experience with the baser class of cases, or added evidence of the 'cruelty of ignorance,' or an unwarranted libel on a worthy class of unfortunates," and that, among the better class of habitués, this asserted lack of veracity did not entirely obtain.

Regarding the origin of the opiate neurosis, the writer asserted that, among the class of habitués to which his paper referred, a "physical necessity"—painful conditions of body or mind—for which opium was given, usually by professional advice, and continued until it had created a disease of its own, was the great genetic factor, and not merely sensual indulgence or vicious desire. In an experience covering the history and treatment of hundreds of cases, but two exceptions to this statement had been noted.

Attention was called to the peculiar power of opium to ensnare and enslave—"a power of which the laity knows little or nothing, and the profession appreciates less than it should." "The writer had been studying opium and opium habitués for more than sixteen years, with an annual experience of late, as regards number of cases, probably unequaled in this country, and yet he stood more and more in awe of this peculiar power with every case that came under his care." Some striking instances were presented.

Granting this "physical necessity," and opiate conditions beyond control, it was asked "on what principle of equity or right can one be held accountable, and so, culpable, for his use of the drug, when, unaware of its ensnaring power, and confiding in the counsel of his medical adviser, he avails himself of the relief it affords? What right has one to set himself up in judgment to note the beam in his brother's eye, when the only reason it is not in his own—when the only reason he is not an opium habitué—is because a kind Creator has so conditioned him that this physical necessity, and consequent opiate need, does not, with him, obtain?"

While admitting that the habitual use of opium often prompts to falsehood, the writer advanced the opinion that, in many cases, "the leading factor in this moral obliquity is the principle of self-protection—the habitué's desire to shield himself from that censure which the prevalent opinion—uncharitable and untrue—that he is simply the victim of his own vicious indulgence, involves."

In closing, these conclusions were submitted:

"Reason and right alike demand a more rational and correct idea as to the origin of the toxic neurosis we have noted.

"This demand complied with—regarding such patients, with certain exceptions, as creatures of conditions beyond control, and so no more culpable than the subjects of other functional disorder—will be most helpful against the protective temptation to untruth.

"The medico-legal status of such cases will then be more in keeping with advanced forensic medicine.

"The medical care of these cases will tend to a more humane method, with larger promise of good results, both near and remote.

"It will, too, be likely to lessen the increase of habitués and the number now existing; for a more correct idea as to the genesis of this disorder will prompt medical men to greater care in avoiding the cause, while many a patient, who now shrinks from disclosing his misfortune, feeling that he is not denied the charity that his case deserves, and that he can command resources both helpful and humane, will be impelled to avail himself of the aid that scientific treatment can surely extend."

In the discussion following this paper, one gentleman said "it was the first time in his experience that, in the discussion of a medical topic, a better and a poorer class of patients had been spoken of," and "the author had failed to define the meaning of 'better class.'" Neither criticism is correct; for no reference whatever was made to a "poorer class," the expression being "baser class"; and the writer *did* define the

"better class" as those who—without regard to riches, learning, or social standing—became opium habitués *unwittingly*, from implicit confidence in, and trustful following of, their physicians' counsel, until the continued use of the drug had created a condition from which they could not, unaided, escape; and the "baser class" as those who take opium from vicious tendency or mere wanton desire. Is there not a difference? And should there not be a distinction? Is the *onus probandi* in exculpation alike for both? As well might it be said that the physician who, in pursuit of his calling, or the innocent wife or child who, in the interchange of sexual and social amenities, becomes poisoned with syphilis, is as culpable as one who contracts this disease in the usual way!

It was further asserted by this critic that "in the great majority of cases, the opium habit was contracted through a selfish purpose or vicious tendency," and that "nine out of ten persons who applied for admission to homes for opium habitués were those who had become acquainted with the drug as doctors and nurses, not through taking it for long suffering." The truth of these statements we *emphatically deny*. Dr. Spitzka's assertions are disproved by men of much larger experience than his, and by *statistical facts*, without which a mere *ipse dixit* goes for naught.

Dr. Joseph Parrish, for many years medical director of a sanitarium for alcohol and opium habitués, said in 1872: "Men take it not for pleasure, but for a physical necessity."

Dr. E. H. Van Deusen, Ex-superintendent of the Michigan Inebriate Asylum, wrote: "For the primary induction of the habit, the stated physician is so commonly responsible that the *onus probandi* in exculpation rests upon him by all fair presumption."

Dr. Albert Day, Washingtonian Home, Boston, whose experience covers more than a quarter-century, writes: "Most of the opium cases I have treated, and I do not know but all of them, began with physicians' prescriptions."

Dr. T. D. Crothers, Walnut Lodge, Hartford, Conn, reports: "All the opium cases I have studied show distinct physical causes as a starting-point of the addiction."

Obersteiner says: "The first commencement of the use of morphia is almost always some painful ailment."

Levenstein declares: "The originators and propagators of this disease are the medical men who, in cases more or less painful and protracted, have advised the patients to use the injection of morphia."

Erlenmeyer, in his recent work—now being translated by the writer—asserts: "The causes of the morphia disease are all those painful conditions of body and mind against which the drug is used."

The writer's opinion—"Pain is the parent of opium addiction"—quite accords with those given.

Of twelve cases cited by Sonder, eleven had a painful origin. The exception was a case of alcoholism.

Of twenty-four cases noted by Levenstein in his work, twenty-one began with pain. Of the others, one, a surgeon, to relieve insomnia; a doctor, and a doctor's wife, to combat mental anxiety.

Of fifty cases mentioned by Erlenmeyer, forty-eight were from physical disease. The exceptions were in a case arising from mental excitement, and one from depression.

Of one hundred cases most recently under the writer's care, ninety-eight had their origin in pain. The exceptions were a naval surgeon, from sea-sickness, and a young doctor, whose curiosity to know the effect of opium outranked his good sense, and wrecked him for life.

Dr. Spitzka's statement as to the proportion of doctors and nurses among opium habitués who present themselves for treatment is incorrect. While admitting that physicians make a majority of the professional class,[1] it is not "nine out of ten," nor because they "become acquainted with the drug" through their calling. Erlenmeyer says: "The assertion that physicians become habitués by virtue of their frequent handling of morphia is true in only a small percentage of cases."

For statistical proof of this position, I submit the following facts lately secured from the superintendents of several inebriate asylums:

Dr. Lett, Homewood Retreat, Guelph, Ont., reports: "Physicians, forty-five per cent.; nurses, *nil*."

Dr. Crothers, Hartford: "Physicians, fifty per cent.; no nurses."

Dr. Earle, Washingtonian Home, Chicago: "Physicians, thirty-six per cent.; no nurses."

Dr. Day, Boston: "No physicians; no nurses. Patients were merchants, farmers, clerks, etc."

[1] See "Opium Addiction among Medical Men," *Medical Record*, April 9, 1885.

Dr. Blanchard, Inebriates' Home, Fort Hamilton, L. I.: "Physicians, thirty-four per cent.; nurses, eight per cent."

Mr. Bunting, Home for Intemperate Men, New York City: "In 1887 we cared for fifteen opium cases, of which five were physicians and two nurses."

Of 50 cases cited in Erlenmeyer's work, 16 were doctors, 1 medical student, no nurses.

Of 110 cases noted by Levenstein, thirty-five were doctors, two nurses.

Of 125 most recent cases under the writer's care, sixty-two were doctors, one a nurse.

Of the 300 cases we have cited, 124 were doctors and nurses, instead of 270—less than half—if Dr. Spitzka's statement, "nine out of ten," were correct!

Dr. N. S. Brill referred to the baneful effect of opium on the *morale*, and said "this influence, he believed, was transmitted from generation to generation." This opinion calls for no comment other than to mention the rule—exceptions not frequent—that the habitual use of opium makes the male impotent and the female sterile, and under *such* conditions it is difficult to conceive of *any* influence "transmitted from generation to generation."

USE OF ETHYL BROMIDE IN LABOR.

BY GEORGE B. SIMPSON, M.D.,
WESTON, W. VA.

In communicating this short article, my object is to get the experience of some of my fellow-physicians as to their use of bromide of ethyl in parturition. I began using it some time ago, and intend to continue it whenever my patient will consent, provided she has no physical contra-indication. I usually aim to lessen the acuteness of the pain of the first stage by giving bromide of potash and chloral hydrate, twenty grains of the former with ten grains of the latter every one or two hours. At the beginning of the second stage, I resort to the bromide of ethyl, by administering from two to four drachms in the same manner as ether and chloroform are used. I do not find it necessary to go beyond the point at which pain is obtunded at first, and, as labor advances, I keep pace by increasing the amount, and prolonging the inhaling to semi-unconsciousness. In this way my cases have progressed to the end of labor without the least untoward symptom. Generally the child is expelled without the knowledge of the mother, and then, upon inquiry, she will say that she had some recollection of the passage of the head. The pains, if any difference occurs, are more regular than when no anæsthetic is used; they are, moreover, strong, and do their work apparently without any assistance derived from the use of the voluntary muscles. The effect on the circular fibres of the os uteri is very noticeable after the first inhalation, the general relaxation is pronounced, and it seems an easy task for the patient then to endure the agony of child-birth. Another thing in favor of bromide of ethyl, as compared with either chloroform or ether, is that it does not possess the strong, pungent, and lasting odor which belongs to the last named. On the other hand, the smell is not disagreeable. Nausea is not usual after its use, whilst it generally follows the administration of ether or chloroform. I will here mention, for the benefit of some who may read this article, and who have never used any anæsthetic in labor, something which books fail to teach, which is, that it is not necessary to have the patient inhaling the anæsthetic during the whole time occupied in labor; remove the napkin after each pain, and replace it about a minute before the next pain returns. Direct the patient to take deep, full inspirations. This will give ample time to develop sufficient anæsthesia to blunt the severity of the pain, which is all that is necessary during the second stage. At the close of labor, the effect can be increased to full anæsthesia, if this is deemed prudent.

I have not seen anything in the journals of late respecting the use of bromide of ethyl. As I have been written to for information regarding its use in labor, I thought, in order to enlist an interest in it, I would give my limited experience, and would like to hear from others who have had more. I feel that it is not only safe, but is a God-send to poor suffering woman; and, as our duty demands us to be diligent in our efforts to relieve the sufferings of humanity, we should not fail to utilize every remedy which will aid in the relieving of pain, and thereby also gain the encomiums of our patients.

—Florence Nightingale is now a patient at a London hospital, which she herself founded. It is said that she is suffering from an affection of the spine, which originated as long ago as the Crimean war, when she ministered so faithfully to the wants of the sick and wounded soldiers.

SOCIETY REPORTS.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, June 12, 1888.

C. B. NANCREDE, M.D , in the chair.

DR. JOHN S. MILLER read the following paper:

A Contribution to the Study of Bone Repair.

The recent observations of Macewen[1] have done much to stimulate the study of bone repair, and have thrown not a little light upon the function of the medullary cells in osteogenesis.

The resort to mechanical irritation of the medullary tissues as a means of accelerating bone repair is an old procedure. Nancrede[2] claims a priority in this for America. As far back as 1793, Eve[3] relates that the lay surgeons of the frontier were wont to make multiple perforation of the external table of the skull where necrosis had followed the Indian mutilation of scalping. And, twenty years ago, Agnew[2] resorted to the same procedure in a case of injury to the head. A fatal termination of the case, however, by encephalic complication, rendered the experiment incomplete. Reports of success by this procedure have been recently multiplied to an extent which will excuse us from repeating them in detail.

That, furthermore, medullary proliferation is not only an element in osteogenesis, but is of itself sufficient to that end without periosteal co-operation, is evidenced by the case of Macewen,[4] in which a considerable restoration of the humerus was secured "by bone-transplantation," after a suppurative inflammation had destroyed both the shaft and its periosteum. The date of this observation is 1878.

The patient was a boy, two years of age. A suppurative periostitis of the right humerus of nine weeks' duration had resulted in total necrosis of the entire diaphysis, and this latter had been removed, leaving a tube of granulation-material lining the periosteum. This tube had been kept patent by suitable dressing, until the whole space had become filled with granulation-tissue, and had finally become a mass of cicatricial tissue. No bone had grown from this periosteum, except in a small part next the proximal epiphyses, where at the outset the periosteum had been found covered with plaques of adherent osseous tissue. In the remainder, there had been no osseous deposit, the result being a flail-like arm, which the patient found so useless that the parents desired its removal.

Macewen determined, however, upon another procedure. An incision was made into the upper third of the arm, exposing the head of the bone, to which was found attached a spike-like process of cartilage. This was removed, leaving as remains of the diaphysis a portion of bone one and three-fourths inches in length. From this point, a sulcus about two inches in length was made in a downward direction between the muscles. The former presence of bone was nowhere indicated, and there was no vestige of periosteum, and the sole guide as to the correct position into which the transplant was placed was an anatomical one. Two wedges of bone were then removed from the tibia of a patient aged six years, with anterior curves. The face of the osseous wedges consisted of the anterior portion of the tibia, along with its periosteum, the wedges gradually tapering toward the posterior portion of the tibiæ.

After removal, they were cut into minute fragments with the chisel, quite irrespective of the periosteum. The bulk of the fragments had no periosteum adhering to them, they having been taken from the interior of the bone.

They were then deposited into the muscular sulcus of the boy's arm, and the tissues drawn over them and carefully adjusted. The wound healed without pus production. Two months after, a portion of bone an inch in length and three-quarters of an inch in thickness was found firmly attached to the upper fragment of the humerus.

Two other wedges of bone, larger in size, were similarly dealt with, and inserted two months subsequently to the first graft, and a third couple were placed in position five months after the first. These filled up the gap in the arm to the extent of four and one-quarter inches. The arm then measured six inches in length.

Soon the utility of the arm was greatly restored. Seven years afterward, he was seen and examined. The shaft of the humerus was found to have increased in length by one and three-quarters inches, being now seven and three-quarters;

[1] Annals of Surgery, vol. vi, p. 289 et seq., 389 et seq.

[2] Internat. Encycl. of Surg., by Ashhurst, vol. v, p. 8.

[3] Remarkable Cases in Surgery, p. 35. Philadelphia, 1857.

[4] Loc. cit., p. 301.

and it had increased in circumference to a marked extent, and assumed a somewhat irregular shape. The length of the sound arm had, however, considerably outstripped the length of the transplanted humerus. He could use the arm for many purposes, taking his food, adjusting his clothes, and many games.

Whether the introduction of proliferating medullary cells into ordinary connective-tissue granulations may convert the whole into osseous tissue, or that a few osteoblasts will, so to speak, leaven the whole mass, is a question involving grave doubt, but the affirmative would seem to receive some support from the case which Nancrede[1] relates in 1883. An extensive laceration had caused denudation and necrosis of the ulna in two-thirds of its extent. The process of repair had been delayed. He drilled numerous holes through the sequestrum into the medullary canal, and, to quote his own words, "in a few days granulations sprang up from the ulna and fused with the granulations of the soft parts, and, in course of time, the fragment was separated."

That the procedure in this case had the effect of stimulating osteogenesis from within, we can readily believe; but, concerning the fusion with granulation-tissue without, a more accurate observation than is recorded by Nancrede is desired, although by analogy we might conceive it possible, inasmuch as repair within the bone is by ossification of an embryonic tissue derived from the connective tissue around the blood-vessels of the medullary spaces. A similar case is reported by Macewen,[2] in which granulations appeared upon a surface of bone completely denuded of its periosteum, and gradually spread until they became united with the granulation-tissue at the periphery of the wound. Macewen, however, infers from this observation that: "The periosteum covering a bone may be completely destroyed or permanently removed, yet the denuded bone may not only retain its vitality, but may throw out cells which will cover it and form a new periosteum."

These cases would seem to confirm Macewen's dictum that the periosteum has no part whatever in the regeneration of bone. But the first case I shall present to your notice this evening demands a different hypothesis for its explanation.

[1] Transactions of the Philadelphia Academy of Surgery, 1888.

[2] Loc. cit., p. 293.

The patient, D. M., aged fourteen years, suffered from an osteomyelitis of the right tibia, resulting in total necrosis of its diaphysis. A complete involucrum had formed around the sequestrum, and afforded an unsteady support to the body-weight. It was covered with the thickened periosteum. A number of fragments had been removed from time to time, and the parents had refused to entertain for him the proposal of amputation. The case, however, when it came into my hands, had become, from septic infection, so desperate that I was compelled to do something radical at once.

Exposing the shaft, or rather the involucrum, through its whole length, I made, with trephine and saw, a fenestrum large enough to permit the removal of the remaining sequestra, and cleared out the whole canal. Both epiphyses were found carious upon their exposed surfaces, and were scraped to the limit of safety. In a few days, a superficial necrosis took place upon the inner surface of the tube.

Demarcation was, however, promptly effected by the free use of aluminum acetate[1] —that sheet-anchor in all sloughing wounds—and a fine layer of fine granulations became the field for any osteogenesis which we might hope to witness. During the long process of repair, with the carious epiphysis as a never-failing source of bacterial supply, it was no trifling task to keep this extensive opening dry and sterilized. Furthermore, neither the patient, the household, nor the neighborhood could endure frequent dressings without great nervous prostration.

The requirements of the case were successfully met by a mixture of iodoform and starch, in proportions which varied with the changing conditions. The cavity of the wound was filled with this dry powder, and to the whole was applied a closed dressing of gutta-percha tissue. The purpose of the starch was to absorb the excess of moisture incident to a closed dressing, as well as to dilute the iodoform. As soon as the powder became saturated, it was removed by a stream of sterilized water, and the wound was filled and closed as before. The periods of dressing were gradually increased from three to ten days. I mention these details, because, without them or similar ones, we can wait in vain for the desired repair. In process of time, the hollow of the involucrum became completely filled with granulation-tissue, which continued to extend until it

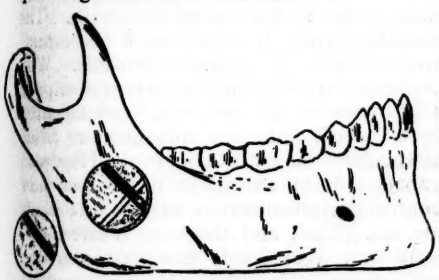
[1] ℞ Pot. et alum. sulph., 1 part; plumb. subacet., 5 parts; aquæ bull., 100 parts. M. Filtra.

fused with the granulations from the soft parts, and finally the whole became covered with a new epithelium, which had gradually spread from the edges of the wound. The tissues became now denser, and offered more and more support to the body-weight until, as you see, he has acquired a very useful limb, and can walk without discomfort.

We must, therefore, infer that a metamorphosis into bone has taken place, and, as the original diaphysis was gone with its medullary structure, we can find no osteogenic agent in the result other than the periosteum.

We must draw a similar conclusion from the recent case reported by Ceci:

The patient, a young man, developed an acute osteomyelitis of the left scapula five days after circumcision for inflamed phimosis. One month later, Ceci[1] extirpated the bone, making the usual L-flap. The periosteum was left intact as far as possible, and the arm was preserved. The patient recovered rapidly, and there was a subsequent regeneration of the bone.



The only possible explanation of this result is by the hypothesis of periosteal agency or co-operation.

The second case which I present is in confirmation of Macewen's proposition that "A portion of bone which has its continuity severed on all sides, and has had all its periosteum removed, is capable of living and growing."

This is in contradiction to our inference in the case of the tibia, and can be reconciled only by the assumption that the discovered laws of osteogenesis are of a lower order, subject to some general law of which we are as yet ignorant. But to the case.

Mrs. L., aged forty-seven years, had suffered with a neuralgia of the maxillaris inferior, for the relief of which all medical means had been exhausted in vain, and which, therefore, left to my option only the *dernier ressort* of neurectomy. The mode of operating was the usual one. The ramus was trephined near the angle of the jaw, the canal was exposed, and about two inches of the nerve-trunk were drawn out and exsected. The button was, however, returned after having been sterilized in a 1 to 1000 solution of corrosive sublimate, but it was not returned to its old position. With a view of imposing a barrier to the reproduction of the nerve, it was so rotated around its vertical axis that the groove upon its lower surface stood at right angles to the axis of the canal. Not only did the wound close by first intention, but the button grew solidly in its position. Now, the curious thing in the case is, that before trephining I had carefully removed the periosteum, so that the latter can claim no part in the subsequent bone repair. After seven months, there has been no return of the disease.

[1] Centralbl. f. Chirurgie, Dec. 17, 1887.

Dr. John B. Roberts, in opening the discussion, said: It is a curious fact that the medical mind has not appreciated the possibility of bone production, despite the frequent instances that must always have come under notice. I was taught, in cases of comminuted fracture, to take out the spicules of bone that were entirely separated from the larger fragments, lest they should necrose and give rise to trouble. Now, it is the practice of the best surgeons to leave the spicules, and we find that often they do not die, and that they assist in the process of union and solidification. This experience is in the same line as the facts given by Dr. Miller in connection with his interesting cases. If these spicules of bone can reunite, why not the button removed by trephining? Why is it not good practice to insert, when necessary, a portion of dog-bone or chicken-bone? as, indeed, has been done. We must not forget, however, the importance of asepsis, and that it is antiseptic surgery that has made these procedures possible.

In a case such as Dr. Miller reports to-night, where he rotated the button of bone, turning the groove, in which the inferior dental nerve had run, at right angles to its former direction, I should be inclined to go still further, and turn it upside-down. The bottom of the pit in which it is to be placed and the periosteal surface of the button being scraped, the ungrooved freshened surface, formerly external, would then be placed inward, and a bony plug would be interposed between the divided ends of the nerve, probably preventing the reunion and return of pain which so often occur.

The case of tibial resection has been very interesting to me, as I have recently operated upon a similar one; the patient being, how-

ever, a woman of about fifty years, so that I cannot hope for as complete a closure of the cavity in the bone as in this growing child exhibited by Dr. Miller. In that case, I removed the whole front of the tibia, going as near the articular cartilages above and below as I dared. The process of repair is like that we see in a tree. We know that, if a foreign body is inserted into a wound made in the trunk of a young tree, the process of cell-growth will go on about it, and finally it will be completely covered in, and its presence be unsuspected until, perhaps, the saw strikes it, as the tree is being converted into lumber.

Dr. Keen, in his recent case of trephining for brain-tumor, returned the button of the skull removed, and the patient was able in a few days to walk around with a perfectly-healed and reunited cranium. Then we know what the dentists do in the way of transplantation of teeth, or return of teeth to their original sockets after removal of diseased portions. More remarkable still is the implanting of old dried teeth into new sockets bored in jaws from which even the alveolar process has disappeared, and their becoming fixed there.

Dr. George E. Stubbs: In reflecting upon these cases and similar ones, it occurs to me that perhaps, in the numerous resections we have done in army and in civil practice, we have made mistakes. Surgery has advanced immensely since the war-time, and antiseptic surgery has opened new possibilities. Often, in my army practice, we removed all the bone when there had been a comminution. I should now, with our new light, try to save more of the broken bone, and so shorten the period of recovery.

In regard to operative treatment of neuralgia, I believe that we are entering upon a stage of work that will be much enlarged in the near future. I had a case recently in which neuralgia of the inferior dental nerve had existed for nearly seven years. I removed one and three-fourths inches of bone with the dental engine, took out as much of the nerve as I had access to, and dressed and treated the wound antiseptically. The wound healed by first intention, and as yet there has been no return of pain; so that I consider I have obtained a very good result.

The Chairman, Dr. Nancrede, said: The first question to be answered in a discussion of this kind is: What constitutes the periosteum? If we mean a fibrous membrane, the inner layer of which consists principally of yellow elastic tissue, then we must agree with Macewen's extreme views, and admit that it has nothing to do with bone repair. But, if we study the normal process of bone development, I, at least, must arrive at a different conclusion. The long bones are laid down in cartilage, a temporary structure. How do they ossify? By means of this very periosteum, which Macewen treats with such contempt, and which Ollier exalted too highly. There is a third layer of the periosteum in direct contact with the bone, and this layer is composed entirely of those elements which, wherever we see them, we recognize as the agents of ossification—the osteoblasts. The temporary cartilage is invaded by connective tissue, ingrowths from the periosteum, covered with osteoblasts, and is eaten up by them; and we find it permeated, and finally replaced by a network of fibrous tissue covered with osteoblasts. A certain number always remain beneath the periosteum. A certain number, very small, remain in the Haversian canals, a still larger number in the medulla.

It is clear to me why compact tissue dies; it has so few osteogenetic cells. The medullary tissue lives because it is comparatively rich in osteogenetic elements. Why does bone die when the periosteum is stripped off? Because the resulting inflammation is so severe that the inflammatory tissue strangulates the osteoblasts in the Haversian canals. With antiseptic means, we now control the inflammation, and the osteoblasts are not killed, and the bone is saved.

We are very hard, nowadays, on the periosteum. The fibrous layer has nothing to do with bone repair, but its osteoblastic layer is in direct communication, through the lining of the Haversian canals, with the medulla; it is practically one structure; and thus, if we look at this matter from the standpoint of a correct histology, we find that both views are correct, provided only that we have a distinct understanding what is meant by the word periosteum in each case.

As to Dr. Miller's cases, I cannot quite agree with him as to what formed the bone in the case of total excision of the diaphysis of the tibia. While the shaft was dying, new bone was formed by the deep layer of periosteum; but, after that, the medullary spaces of the involucrum completed the bone. I would also take exception to Dr. Roberts's proposition to scrape the button of bone and turn it inside-out, in the case of trephining the jaw for neuralgia. By this process he would remove all the osteoblastic cells, and the compact tissue would have a

very good chance of dying. One reason for failures in operations about the lower jaw is that it contains so little true medullary tissue, while, on the contrary, we can replace trephine-buttons in the skull and have union, because the skull contains a large amount of such tissue.

I think Dr. Stubbs need not blame himself for his practice in resecting in military surgery. The necessary condition to bone repair is that absence of suppuration afforded by antiseptic methods, and, under the conditions present in the operations he speaks of, he did right. And, to-day, he does right in trying to save the bone. In each case, he takes the proper course in relation to the circumstances, and that is all anyone can do.

The case of Dr. Agnew, referred to in the paper, occurred some twenty odd years ago. I saw the operation. The wound was completely covered by granulations. The fact that a denuded external table did not always necrose was known to Potts and to all the older as well as modern surgeons, and, if Ollier had not led us astray by grafting, by insisting upon the periosteum being the sole osteogenetic agent, ignoring the fact that, in removing it, a layer of cells identical with those of the medulla is torn off, I think we would have arrived at a correct practice sooner. But surgeons went wrong by authority of Ollier, as they are now going wrong in the other direction by authority of Macewen.

In regard to the implantation of dead teeth, which Dr. Roberts refers to, the principle is probably the same as in the bony pegs we used to employ for ununited fractures. They are hollowed out by the granulation-tissue, which develops into a fibrous or even osseous tissue, and so holds the tooth in place by these newly-formed digitations. About twelve years ago, I exhibited to this Society a case in which I resected four and a half inches of the humerus, and about two and a half inches were reproduced from the sawed end. This was without antisepsis. In the case referred to by Dr. Miller, where I drilled the ulna, I am sure that the bone granulations fused with those of the soft parts, for these reasons: the shell of bone, when detached, was not more than one-fourth the thickness drilled through, while the new bone was nearly as thick as the ulna of the other side, as the cicatrix was not materially depressed. A recent experience in a case of knee-joint excision induces me to recommend that, instead of wiring fragments of bone, we nail them together, after having previously drilled, or not, according to circumstances, allowing the heads of the nails to project through the skin. We thus save trouble, and avoid damage in the removal.

DR. ROBERTS: Dr. Nancrede misunderstood me in regard to scraping away the cancellated tissue in reversing the plug in the case of trephining the lower jaw. I would scrape only what he calls the fibrous periosteum from the button, and from the bottom of the pit in the jaw I would take away the cancellated structure sufficiently to remove all trace of the nerve-canal. The two raw surfaces would be placed together, and, by sinking of the button, would be a solid bony plug interposed between the nerve ends.

DR. MILLER: I do not see any advantage in reversing the plug over rotating it. The groove being at right angles to the course of the nerve, the part in contact with the nerve is still solid bone, and the groove does not matter at all. In relation to the tibia case, the reason I emphasize the fact that the repair took place from the periosteum is because there was entire death of the old bone with the involucrum, while the periosteum did not die.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS.

FIRST ANNUAL MEETING, AT CHICAGO, JUNE 28, 1888.

The preliminary meeting of the Association was held at Chicago, Illinois, June 28, and was called to order by the Chairman of the Committee, DR. C. W. STEMEN, of Fort Wayne, Ind., who said the salient feature of the meeting was for permanent organization. The objects of the Association were to bring the surgeons of the different railroads together annually to develop this special and rapidly growing branch of surgery, to report cases, to relate experiences, to exchange views, and to discuss the best means and methods of treatment in railway injuries.

The meeting was very largely attended, nearly all the distinguished railway surgeons of the United States being present. Sixty-three railroads were represented. The Association starts out with a membership of 600, and promises to be one of the most active surgical organizations in the country.

Dr. W. B. Outten, of St. Louis, read a paper on

A Few Points in Railway Surgery.

He said that out of 103 railway injuries attended by him—caused by the passage of locomotives and cars over the parts involving the superior and inferior extremities, excluding injuries of hands or feet—more than one-third died from shock, and one-tenth died from shock without operative interference.

Dr. J. B. Murdock, of Pittsburg, in opening the discussion, said he had been deeply interested in Dr. Outten's paper, and, in discussing the treatment of railway injuries, the question of paramount importance is whether we should adopt primary amputation, or, as a rule, resort to secondary amputation. If he understood Dr. Outten aright, he recommended secondary amputation in limbs crushed by railway injury. The time at which an amputation should be performed is divided by some authors into the primary, intermediate, and secondary. Others make still further divisions. For instance, Dr. Hamilton does what he calls the *immediate operation*, then the primary, intermediate, and secondary. The primary amputation is made within twenty-four hours of the accident, the intermediate during the inflammatory period, and the secondary after suppuration has set in. He believed all authors agreed that that which was called the intermediate—that is, between the primary and secondary—is an unsafe and dangerous time to perform amputation, for it had been said by military surgeons that the mortality in primary is much less than in secondary amputation. That was the conclusion military surgeons arrived at. It is important for every railway surgeon to know whether he should adopt what has been confirmed by military surgery. It has been his rule, and he believes it to be the correct one, that, if the patient has sufficiently reacted from the shock, to perform amputation, and the sooner it is done the better, and the greater are the chances for recovery of the patient.

The modern rules of doing operations under strictly antiseptic precautions, it is true, have replaced old ones; many of the old rules were certainly useless, as far as statistics show. A great many of our patients die after amputation, from septic poisoning. He would ask those gentlemen who have had an extensive experience, if we are not able to obtain better results by primary amputation now than we ever did before? Do you know that, when we meet with a mangled badly-crushed limb in which vessels or arteries have been severed, we are more apt to have blood-poisoning if we wait, than if we do the amputation at once, before any change has taken place in the vessel or vessels? There is an increased proportion of benefit resulting from the primary over the secondary operation. Indeed, he would go farther and put himself on record in favor of the immediate operation, as a rule. He wanted it understood that he would not do this always. There was one point with regard to the manner in which a car-wheel crushes a limb which should not be overlooked. Frequently surgeons would say—and usually they were surgeons that have not had much experience—that they have saved limbs over which the wheels of a car had gone. Any surgeon who reflects for a moment upon the fact that the weight of an empty gondola car is about 17,000 pounds, and observes the mechanism of the flanges, which act, so to speak, like a powerful pair of scissors—if he will recollect, furthermore, that a pair of wheels weigh 500 pounds, a locomotive 50,000 pounds, and the lightest box-car 17,000 pounds—he will come to the conclusion that not many limbs are saved after a car-wheel goes over them. When a car goes over an object, about one-third of its weight rests upon the object as it goes over it. He had not much confidence in surgeons who claimed to save limbs over which car-wheels had gone.

Dr. W. P. King, of Sedalia, Missouri, had been doing surgical work for railroads about twelve years; he had charge of a large railroad hospital, and had treated, from time to time, a great many wounded men. It was an unfortunate circumstance for those who were injured on railroads to have to undergo amputation. While it is true in regard to other accidents and injuries to which men are subjected, that limbs are saved when seriously injured, it was also true, as stated by Dr. Murdock, that, when a car-wheel passes over an arm or leg, as a rule, that member must come off. He had seen one or two cases, and one particularly in which two car-wheels had passed over the arm of a man, leaving their imprints behind as they passed over. The limb was saved. The man carried a bundle under his arm at the time of the accident, which consisted of old clothes, and which, Dr. King held, saved the arm. He would not arrogate to himself the idea that he saved

the man's limb, or the limb of any man over which the wheels of a car had gone, for by so doing he would place himself in a position he would not care to occupy.

With regard to the wonderful influence that had been wrought upon railroad work by modern antiseptic surgery, he could maintain the position that it is not always necessary to cut a man's leg or arm off in order to prevent septic infection. He claimed to be a pioneer in the use of antiseptics in surgery in the West. He did not care how much a man's limb had been injured, contused, or lacerated, he could prevent blood-poisoning. In the first place, a certain time is required for the entrance of the ptomaines or septic material into the circulation; and, if the surgeon would apply an antiseptic apparatus, washing every part of the contusion and lacerated tissue carefully and thoroughly, he could prevent the entrance of septic germs.

Dr. J. H. Bennett, of Wauseon, O., would like to go back to the foundation of antiseptics. He had practiced his profession for 25 years, had done considerable railroad surgery, but had never applied carbolic acid or bichloride of mercury to a wound—in short, he had never used a drainage-tube. He held that, by using either bichloride of mercury or carbolic acid, he would be adding to that wound a material that would set up an inflammation.

Dr. J. B. Stemen, of Fort Wayne, Ind., said the points set forth in Dr. Outten's paper showed that the author has had a large experience in railway surgery, that he knows what he has written about, and understands the subject thoroughly. It was one of great practical importance to the railway surgeon. While he admired to some extent the remarks of the last speaker (Dr. Bennett), he could not let them pass without entering his protest against what had been said in opposition to modern antiseptic surgery. Being in a position, as railway surgeon upon the Pennsylvania road, where accidents occurred now and then, and sometimes but little or no attention had been paid to antiseptics in the dressing of wounds and sending the cases on to him, he had experienced serious difficulty. With the rapid advances that have been, and are being made in surgery, and from the testimony we have in this country and across the water, the day is past when men can consistently oppose antiseptic surgery. Sir Joseph Lister, in his teachings, has been the greatest benefactor of the present age in advocating it. He could demonstrate to anyone—and it was almost useless to discuss that question, for it had been demonstrated so often—the benefits resulting from an adherence to antiseptics in the practice of surgery. He regretted very much, indeed, that there are still men who oppose it. He knew that Lawson Tait, Bantock, and others did not directly advocate it, yet, in order that a person may visit their operating-rooms, he is almost bound to subscribe to an oath that he has not been in a dissecting-room or in the presence of any infectious disease before he is admitted. All the necessary antiseptic precautions were taken by them, with the exception that they do not use the bichloride.

Dr. J. H. Murphy, of St. Paul, said he had been a railway surgeon for 25 years, and the cases that most annoyed him and his assistants were injuries of the spine. He had at present one case under his care, of fracture of the spine, with paralysis of the lower limbs. Most patients with spinal trouble died. He would like to ask any member of the Association whether there was any manner or means by which such spinal injuries could be relieved. He had resorted to every known form of treatment, but had failed. If anyone had met with success in the treatment of such cases, he would like to know it, the plans adopted, etc

Dr. Outten closed the discussion by saying he did not wish Dr. Murdock to understand him as favoring secondary amputation It depended upon the nature and extent of the injury. In some cases, he would resort to primary amputation, in others he would not, but would endeavor to meet the indications.

Dr. Murphy moved that, when the Association re-assemble, it discuss injuries of the spine. It was in a large number of such cases that the railway surgeon was called upon to testify in court, and lawyers were better posted on this subject than anything else. *In short, they all read Erichsen.*

The Association convened again at 8 P.M., First Vice-President, Dr. J. H. Murphy, in the chair.

Discussion on Spinal Injuries.

Dr. Stemen, of Fort Wayne, opened the discussion by saying that, in 1874, a man working in a gravel-pit in Illinois sustained a fracture of the eleventh dorsal vertebra with compression of the cord and complete paralysis of the lower extremities. The patient was brought to his town in a pitiable condition. A short time after the injury,

he made the operation of trephining—cut down and removed an arch of the vertebra—with good results. Sensation was restored, and the bed-sores healed kindly within two weeks after the operation. The man is still living, and has served in Ohio three terms as Recorder of that County; but there is still some paralysis of the lower extremities.

In the same year, at Macon County, Missouri, he made the operation on a man upon whom a limb had fallen. He removed two arches of the vertebræ, without benefiting the patient. He had since done the operation three times: once for railway injury—the man was caught by a train and doubled up, and fracture produced. He did not get to operate on this case, however, for over a week, on account of having to wait to obtain consent of the family. He finally operated, with no benefit. What he desired to say more particularly was this: He believed the surgeon, notwithstanding what Ashhurst has regarded as unjustifiable, whenever he has fracture of the vertebræ with compression of the cord, and after obtaining the consent of the patient and his friends, should cut down and elevate the depressed bone, and, if there has been an injury of the cord, he believed the operation would be a successful one; and, although he had only met with success in one case, he regarded the operation as justifiable, and would advocate it.

Dr. David Prince, of Jacksonville, Illinois, reported the case of a man who was thrown out of a wagon by a runaway team; the end of the wagon fell across his back, paralyzing his lower extremities and bladder. The tenth dorsal vertebra projected considerably beyond the eleventh. The patient never recovered the use of the lower extremities, and, about a year after the accident, died. He thought the patient died principally from irritation connected with his helpless condition. In the light of what had been said by Dr. Stemen, he would not hesitate to cut down and remove an arch or two arches of bone and see what the results would be.

Dr. J. Harvey Reed, of Mansfield, Ohio, said it seemed to him that, as railway surgeons, we have to consider spinal injuries under two general heads: *First*, pseudo-spinal injuries; and, *second*, true spinal injuries. The worst class he had to treat, and which gave him the greatest amount of annoyance, was the *pseudo* class, which lawyers usually "trumped up." For instance, a fellow is hurt; he, perhaps, does not report to the surgeon at all, and, in the course of six months, sues the company. The surgeon is called upon to defend the company. The question comes up for the surgeon to decide whether that man really has spinal injury, or whether he has not. It is an important question—one that embraces finance and morality. The railway surgeon is morally bound to give that man the benefit of the injury he has sustained; at the same time, he is bound to support the company if the patient plays the part of an impostor. He had found, in his experience, that this class of cases was the hardest for him to decide positively as to diagnosis, and to do what he considered his conscientious duty to the road to which he belonged.

As to the cases of *true* spinal injury, there was no question about the diagnosis. If we have a fracture of the spine, with all the true results, it was not difficult to decide.

He would agree with Dr. Stemen that, where there is fracture, with compression of the cord, the proper thing to do was to cut down and relieve the pressure, just as we would relieve the pressure upon the brain from a depressed fracture of the skull. These fractures may be slight; the pressure may be slight; yet grave results sometimes follow them, just as they do slight pressure and injuries of the brain, which result fatally in six, seven, or ten years afterward. He was satisfied that surgeons had been too conservative in the matter of operating upon the spine. Dr. Ridenour, to his knowledge, had trephined the spine with favorable results; and he could not see any tangible reason, nor, in fact, any more danger attached to trephining the spine than in trephining the skull for lesions of the brain. If we can do it with impunity in the skull, why can we not do it with impunity on the spinal cord? He was firmly convinced that many difficulties could be relieved by trephining. It is true, these difficulties will sometimes be relieved spontaneously, just as gun-shot wounds of the abdomen, intussusceptions, etc., get well spontaneously. This was not the rule, however.

Dr. Reed then related a case of fracture of the atlas. The man recovered. The accident occurred five or six years ago; the man came very near dying last week. The injury that the fractured vertebra is producing on the spinal cord, in his judgment, will, sooner or later, produce death.

Dr. Murdock, of Pittsburg, thought it was the desire of the Association to have taken up the subject of Erichsen's Spine, so as to include all injuries from so-called spinal

shock up to that of fracture of the vertebræ and compression of the cord.

Fortunately, his experience was not very extensive, for he had only met with two cases of fracture of the spine, which, he regretted to say, terminated fatally. He thought, if any surgeon could instruct the Association how to treat fractures of the spine with a reasonable degree of success, whether by suspension, jury-mast, plaster-of-Paris, wiring, trephining, or otherwise, he would confer a great benefit upon the members.

In this connection, he saw the report of a case (he thinks in a Kansas journal) of a new-born child in which the spinal cord is said to have protruded, or separation taken place, a few days before birth, in which the doctor cut down, returned the cord, and wired all vertebræ separated together, and the child is still living.

What should be said of those cases in which we have supposed spinal injury without lesion? He would hold, and believed it to be true, that there is no such thing as a serious injury of the spinal cord without a lesion. He did not believe there could be such a thing as a paralysis, or any serious disturbance of the nervous system, such as we often heard complained of, without some kind of change in the structure of the cord itself.

Dr. W. A. Ward, of Conneaut, Ohio, fully agreed with Dr. Reed in regard to diagnosis. Although he had not had much experience with injuries of the spine, yet the remarks made vividly called to mind a circumstance in which he was placed. A lady in a wagon, attempting to cross a track, was struck by a gravel-train that was backing up. She claimed to be seriously injured, and commenced suit for recovery of damages. The case ran along, and was finally set for trial. Dr. Ward had no knowledge of the case whatever, but had received a communication from the counsel of the railroad, requesting him to examine the case and make a report of it. When he got there, they claimed that the lady was seriously injured; that she remained comatose for twenty-four hours or more. He took his time, examined the case thoroughly, went home, and wrote out his report to the effect that, although he believed the woman was injured at the time, it was only temporary, and that she was suffering from hysteria. He would not be surprised, as soon as the case was settled and out of the way, to see her make a rapid recovery. He called attention to the fact that she was injured at the outset, and remained comatose for a considerable time, which afforded an excellent foundation upon which the lawyers could build a case, but he considered the superstructure faulty and defective. The lady sued for $25,000, but the claim was adjusted for less than $2,000. A year or so afterward, he inquired about the lady, and learned that she was dead. He could obtain no facts in the case, and, while the question occurred to him whether he had erred in diagnosis, he was fully convinced that her death had no direct connection with the injury. Had the woman died before the case went to trial, he had no doubt the lawyers would have attempted to make the jury believe that death was directly and unmistakably attributable to the injury.

Dr. V. P. Gibney, of New York, being called upon to address the Association, said that, while he was deeply interested in the subject of spinal concussion, or Erichsen's spine, his practice had been limited in that direction. He would like to have some one tell him how to differentiate between the *pseudo* and *true* cases of spinal trouble. This was not an easy matter to do. He thought that, if we looked to neurology, we would be able to discover, at all events, whether there is any lesion or not. There were a few things in neurology with which the general practitioner could acquaint himself.

Dr. W. A. McCandles, of St. Louis, said that, something over six months ago, a brakeman was setting a brake, and the rod broke, throwing him back upon the car. He was brought to the hospital with lower extremities paralyzed. After being there some weeks, making no exhibition of any feeling or sensibility in the lower extremities, he became suddenly blind in one of his eyes and described the sensation as if a sharp body had pierced his temple. About the same time he lost his voice, so that for months whispering conversations were held with him. He was very much interested in the case, because the patient had every appearance of being a good, honest, sincere man. Dr. McCandles consulted a neurologist, ophthalmologist, and laryngologist, which constituted the consulting board of the department to which he belonged. It was some time before he consulted these gentlemen, however, believing that the conditions were genuine. The man lay in bed five months without apparently moving his limbs. First, the laryngologist was called, who, after examining his throat, said there was no reason why the man could not

speak and articulate distinctly, as the cords opposite came in contact with each other. Next, the ophthalmologist was called, who subjected the patient to the prism test, and said there was nothing to prevent him from seeing. Different tests were made to determine whether he could, by any possibility, be compelled to move his limbs. Pins were thrust into him without avail. His legs were œdematous, cold, death-like. The three specialists (Dr. Alt was the ophthalmologist in this case) saw nothing wrong with the man. Shortly afterward, he met one of his comrades and joined him in a drink, and, if the reports were authentic, the man proved to be a malingerer.

Dr. T. M. McIlvaine, of Peoria, Illinois, said that, some five years ago, he was sent 40 or 50 miles to see a woman who had, 14 months previously, received a railway accident in Iowa. She was thrown from her seat to the floor, striking on her shoulders. She immediately got up; made no complaint. Her clothing was torn somewhat, for which she received $20 on account, and signed a release as part of the damages from the company. She went home, resumed her usual vocation, and for five months made no complaint whatever; but shortly after this she complained of a tender spot in the spine, which seemed to increase. Various reflex symptoms came on—vomiting, urinary trouble, etc.—until the woman was totally disabled. Suit was brought against the railroad company for $5,000. Dr. McIlvaine was unable to find any lesion. He visited the surgeon who examined her at the time of the accident; there was no redness of the parts, and no pain. The case was traced, a detective put to watch the woman two or three months, she at that time living 40 miles from the railroad, in a small country town. The case proceeded to trial; she won it It was appealed, and she won it again. Dr. M. had kept track of the woman for five years, and she was absolutely perfectly helpless. Whether there was a palpable lesion or not, he was unable to say, but he thought there were a number of such cases that could not be controverted, and the railway surgeon may as well face the music. The best way to do is to follow them up to find out whether they are malingerers or not.

The following papers were read:

Report of Two Cases of Successful Triple Amputation for Railway Injuries, by Dr. J. B. Luckie, Birmingham, Ala.; Synchronous Amputation, by Dr. N. C. Lynd, New York; Report of a Case of Simultaneous Triple Amputation with Recovery, by Dr. A. J. Banker, Columbus, Ind.; First Care and Treatment of Railway Injuries, by H. H. Middlecamp, Mo.; Relations of Railway Surgeons and Members of the Bar, by Lagrange Severance, Ind.; External Wounds Communicating with Fractures of Bones, by Dr. J. R. Williams, Michigan; Report of a Case, by Dr. William Caldwell, Ohio; Treatment of Compound Fractures, by Dr. W. L. Buckner, Youngstown, O.; Brakemen's Injured Fingers, by Dr. J. A. Jackson, Milwaukee, Wis.; Fracture of the Spine with Reports of two Cases, by Dr. W. C. Henry, Indiana; Violent Injuries of the Pelvic Bones and Pelvic Viscera, by Dr. W. A. McCandles, St. Louis, Mo.

The following were then elected officers for 1889:

President, Dr. J. W. Jackson, Kansas City, Mo.; First Vice-President, Dr J. H. Murphy, St. Paul, Minn.; Second Vice-President, Dr. J. B. Murdock, Pittsburg, Pa.; Third Vice-President, Dr. A. W. Ridenour, Massillon, O.; Fourth Vice-President, Dr. B. L. Hovey, Rochester, N. Y.; Permanent Secretary, Dr. C. B. Stemen, Fort Wayne, Ind.; Assistant Secretary, Dr. J. H. Tressel, Alliance, O.; Corresponding Secretary, Dr. E. R. Lewis, Kansas City, Mo.; Treasurer, Dr. J. Harvey Reed, Mansfield, O.

St. Louis was chosen as the place of next meeting.

PERISCOPE.

Treatment of Broncho-Pneumonia in Children with Application of Ice.

Dr. Angel Money, Assistant Physician to University College Hospital, London, in a communication to the *Lancet*, June 2, 1888, says that he has treated many cases of severe broncho-pneumonia in infants and children with applications of ice-bags. The cause of the pneumonia does not, in his experience, influence the employment of the ice-bag. It may be used with much success even in cases of broncho-pneumonia secondary to tracheotomy, but still more favorably in cases occurring in influenza and measles. The smaller the child, the more marked, he says, are its effects. In very small infants, under one year of age, the ice-bag may be placed on the head, the hair having been previously thinned and shortened if necessary. The treatment, to be successful, must be carried out with a will and system-

atically. As a general rule, the temperature in the rectum affords the best guide to the application of cold, and those acquainted with broncho-pneumonia well know the highly-marked remittent or almost intermittent character of these affections. Ice-bags have the objection that they often give rise to a little wetting of the child; but this has not, in his experience, proved injurious to the patient. Leiter's tubes have been tried, and have some advantages, being especially valuable when an intelligent nurse is in attendance. In severe cases, in which a rapid effect is required, two ice-bags have been placed on the head and one over the chief seat of consolidation in the lungs. With a little management, he says, it is not difficult to keep these in place; certainly not when the neuro-muscular prostration is marked, as it almost always is in severe cases. The chief merits of this treatment, he says, consist in the maintenance of the strength, not only of the heart, but also of the respiratory centres and of the nervous and muscular systems. Although otitis media occasionally occurred, yet this has not been more frequent than in cases treated without cold. Albuminuria, he says, is not rendered worse by the cold, nor have any cases of hæmaturia been observed, although Dr. Money has been at some trouble specially to collect and test the urine. The duration of the disease he declares to be, on the whole, shortened. Convalescence is almost invariably rendered more rapid, doubtless because of the conservation of the child's energy.

Not only, he says, does the cold directly quiet the heart and steady the circulation, but the calming of the nervous system also acts indirectly in the same direction. The respiratory centres are similarly beneficially affected. The heat-regulating apparatus manifests more clearly the same beneficent action, and the temperature-chart shows a similar harmonious effect. It is curious to observe the almost immediate cooling of the whole surface of the body soon after the application of ice to any part, this cooling effect being perhaps best marked when the ice is applied to the head; the hands, previously red and hot, become cool and slightly blue. The change is decidedly favorable, notwithstanding the supervention of the signs of feeble circulation in the exposed parts of the skin. Vomiting and diarrhœa, alone or in combination, may require treatment in the cases under consideration; the cold method, he says, does not increase diarrhœa, but certainly tends to stave off vomiting. Stimulants are to be used when indicated, but they are less apt to be necessary under this treatment. There is, he says, a saving of expense all around: the cost of the illness is lessened and there is less expenditure of reserve strength.

Administration of Salol to Children.

Demme reports in the *Wiener med. Blätter*, No. 51, 1887, a number of interesting investigations made as to the action of salol on children. He employed this drug in four cases of articular rheumatism, two cases of acute endocarditis and pericarditis with but slight rheumatic complication, two cases of vesical catarrh, and as an external dressing in two cases of serious burns. Two of the patients with acute rheumatic polyarthritis were boys of eight and thirteen years of age. Both of these, as long as there was fever, swelling, and painfulness in the joints, received doses of fifteen grains of salol at intervals of two or three hours until forty-five or sixty grains had been given. In one of these cases, salol was given for five and in the other for seven days. With the reduction of the fever and of the joint-affection, the amounts of salol were reduced to thirty grains in a day, and, as convalescence was established, but fifteen grains were given. Although in these cases the effects of salol were not astonishingly prompt, yet, on the other hand, there was no relapse of the rheumatic process; so that the duration of the disease, in all, was only from fourteen to sixteen days. In the third patient suffering from articular rheumatism, a girl seven years old, the temperature was reduced from 103.4° to 98.8° F. within forty-eight hours after the administration of seventy-five grains of salol in divided doses, and was accompanied by the reduction of the painful swelling of the foot, right knee, and left elbow-joint. Here also no relapse occurred. The fourth case of rheumatic polyarthritis was that of a girl, nine years of age, in whom the result was less satisfactory. In the first place, considerable difficulty was met with in the administration of the drug. The administration of fifteen grains, whether in emulsion or capsules, produced vomiting within ten to fifteen minutes. After the introduction of thirty grains of salol in egg emulsion as an enema, there occurred within eight or ten hours an eruption of urticaria over the entire body, while no improvement was observed in either the fever or the joint-affection. The use of the remedy was therefore suspended, and

sodium salicylate, in doses of forty-five grains daily, substituted. This substitute was retained, and reduced fever and swelling and pain in the joints, but it likewise led to the production of an eruption similar to that caused by salol. For eight days after the employment of the sodium salicylate, the child was perfectly convalescent, but there was then a relapse of the disease, with the localization of the rheumatism in the right shoulder-joint and metatarsal joints of the left foot. Antipyrine was then given; and this was well borne, and cure resulted in four days, after seventy-five grains in all had been given. In the cases of endocarditis and pericarditis, the action of salol was satisfactory only when frequency of the heart's pulsation had been reduced by appropriate doses of digitalis. In the two cases of vesical catarrh, the salol was well borne. One of these was of special interest, as it was a case of acute cystitis from the toxic action of cantharides. At first, salol was given in doses of twenty-four grains, then of thirty-one grains, and then of thirty-nine grains, daily. On the second day, the alkalinity of the urine disappeared, and diuresis was more abundant and painless. The amount of pus and mucus in the urine decreased, and the boy was regarded as cured. Toward the end of the administration of the salol, a greenish-brown coloration of the urine occurred similar to that produced by carbolic acid.

Notwithstanding this result of Demme, we cannot believe that salol is destined to a high career in practical internal medicines, unless, indeed, it be as a remedy in diseases of the bladder. As our readers no doubt know, it yields, when broken up by the pancreatic juice, about sixty-four per cent. of salicylic acid and thirty-six per cent. of phenol. It cannot affect the system differently from the two substances which it contains, and neither clinical experience nor any scientific reasoning indicates that it has peculiar virtues; and the claim that it is incapable of producing untoward symptoms, and that it agrees better with the stomach than any other salicylic preparation, is doubtfully sustained. It is, however, less disagreeable to take than many other preparations of salicylic acid. But, in a considerable experience, we have been convinced that it is less prompt and less certain in its influence, especially in rheumatic cases. Bethol, although it contains ten per cent. less of salicylic acid than does salol, is probably not less efficient than salol, and is less poisonous, because it has in it the inert naphtholol instead of carbolic acid.—*Therapeutic Gazette*, July, 1888.

Accident from a Laminaria Tent.

Dr. Thomas C. Smith, of Washington, D. C., reports a case in the *Am. Journal of Obstetrics*, July, 1888, which illustrates an accident which may occur from the use of laminaria tents. A young married woman, who had never been pregnant, consulted him for dysmenorrhœa, from which she had suffered since menstruation began. On examination, he found a conical cervix, but there was neither displacement nor disease. On trying to pass a sound, the cervical canal was found to be of such diminished calibre that the instrument could not be made to reach the uterine cavity. A fine probe was finally made to enter the uterus. After some days of preparation, the patient was anæsthetized, and a straight sharp-pointed bistoury, cautiously used, was made to cut its way through the obstruction, enlarging the canal of the cervix sufficiently to permit the introduction of a sound with facility. A small laminaria tent was inserted and allowed to remain until the next day. It was Dr. Smith's intention to introduce a hard-rubber stem pessary to prevent the contraction of the parts; but, owing to severe pelvic pain due to a slight cellulitis, this plan had to be abandoned. For six or eight months, the woman suffered little from pain during her periods; but, after that time, the dysmenorrhœa was as bad as ever. In June of the last year (1887), he made an examination, and found the cervical stenosis greater than it was originally. A solution of cocaine was applied locally, and he was able to divide the stricture sufficiently to admit a sound. Next day, a small laminaria tent was inserted for the purpose of dilating the parts, so that a stem pessary might be used. On trying to remove the tent, he was surprised to find that it would not come away readily, and it was only by using considerable force that the tent was secured. The patient suffered much pain at the time, but this was not to be wondered at when the tent was examined. This was found to have expanded above and below the stricture, but at the point of constriction its expansive power had not been sufficient to stretch the parts, and, as a matter of course, difficulty was experienced in removing the tent, which looked as if it had been tied tightly in the middle with a string. For several days the patient suffered pain, but has menstruated with less pain since that time.

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CONGRESS FOR THE STUDY OF TUBERCULOSIS.

A very important gathering of medical men, devoted exclusively to the study of tuberculosis, took place in Paris from the 25th to the 31st of July. The chief questions submitted for discussion were: The danger of using meat or milk from tuberculous animals; the aptitude of human races, animal species, and organic tissues (*milieux*) to contract tuberculosis; the route of introduction and propagation of the tubercular virus, and prophylactic measures; and the early diagnosis of tuberculosis in man and the lower animals.

It would be hard to give, in a short space, a satisfactory summary of the work done at this Congress, and those of our readers who have opportunity may well turn to the full reports in the French journals, and especially in the *Gazette Hebdomadaire* and *Bulletin Médical*, and study them carefully. But, in order to give our readers an idea of what was brought forward, we may state that the questions proposed proved much too extensive to be fully discussed, and that the time of the Congress was largely occupied with discussion of the conditions which predispose to tuberculosis, and the manner of its communication. The general opinion seems to have been that heredity has a powerful influence in predisposing to tuberculosis, and that the disease itself may be hereditary. Not much seems to have been said in regard to the belief that the children of tuberculous parents inherit, usually, only a peculiar vulnerability, and not a disease, and that they simply give way to that one of the constantly pressing morbific influences which meets with tissues least fitted to resist them.

A great deal was said about the *rôle* played by milk and meat in provoking an outbreak of tuberculosis, and it seems to have been the general opinion that meat and milk from tuberculous animals are frequent sources of infection. In this connection, attention may be called to the discussion as to the possibility of infection through uninjured mucous membrane. A number of observers and experimenters testified that there could be no doubt that infection may, and does, take place in this way, although there was some strong negative testimony in regard to the liability of chickens to contract tuberculosis when fed upon tuberculous matter.

Some interesting communications were made in regard to the infection of human beings by means of wounds into which tuberculous matter was presumably introduced. The testimony given seems to warrant the opinion that infection in this way rarely gives rise to any more serious trouble than what is called "anatomical tubercle"; and it is reassuring to note that M. Barthélémy reported that he had invariably succeeded in curing this lesion

by the application of the actual cautery, in small points placed very close together.

From this brief sketch, it may be inferred —and the inference will be correct—that the Congress on Tuberculosis, while an important gathering, made only a beginning of the work which it may be hoped that subsequent meetings will carry further. In fact, it only dipped here and there into the subject, and decided nothing in regard to the questions before it. The nature of the disease received hardly any attention at all, and its treatment was almost entirely neglected.

One thing more must be said, in regard to the scientific value of the proceedings. No just estimate of them can be formed—unless it be by rarely discriminating minds—without some personal knowledge of those who spoke. All who have experience in such meetings know that what may read like a conclusive argument may come from one who has more ability as a disputant than as an observer; and that zeal in supporting an opinion often leads to a species of mental strabismus or intellectual scotoma, which must be taken into consideration in estimating the value of what some persons see or think.

Giving this fact its due weight, we incline to believe that the recent Congress on Tuberculosis may be regarded as having furnished nothing more than a series of interesting observations, which deserve the careful study of those who have already made tuberculosis the subject of special investigation; but that the chief value of its work was—as might have been expected at a first meeting—in indicating the lines upon which subsequent investigations may be most efficiently carried out. Judged by this standard, the meeting was a success; but we trust that not many will fall into the error of a newspaper of Chicago, which evidently thought that the Congress had settled the whole question of the mode of communication of tuberculosis, and had pointed out measures calculated to lessen very materially its ravages. There is a great deal to be learned about tuberculosis yet, and many meetings like that held lately in Paris may be held before we shall understand just how it comes, or how we may prevent its coming.

TREATMENT OF PHTHISIS WITH INTRA-PULMONARY INJECTIONS OF CREASOTE.

It is now about fourteen years since Dr. William Pepper, of Philadelphia, had the courage to attempt to bring about healing in cavities in the lungs, caused by phthisis, by the injection of iodine into the substance of the lung. After a faithful trial of this method, he finally abandoned it, as the results—while promising at first, and very satisfactory in a certain number of cases—did not prove good enough to warrant its general adoption. Other clinicians have, at different times since then, made attempts of a similar sort; but, so far, all have failed to establish the employment of intra-pulmonary injections as a method in the treatment of phthisis.

Lately, however, Dr. Leon Rosenbusch, in Lemberg, has made a number of experiments, in the General Hospital in that place, in the treatment of phthisis with intra-pulmonary injections of creasote, which have encouraged him to recommend this method for general adoption. In the *Wiener med. Presse*, June 10, 17, and 24, he describes his plan in detail, and gives the results of its employment in ten cases. He obtained the best results from injections of a three per cent. mixture of vegetable creasote with oil of sweet almonds This generally produced, after the first injection, a diminution in the coughing, and a considerable decrease in the fever of his patients, lasting from eight to twenty-four hours. At the same time, the general condition of the patients improved, and the physical signs of consolidation were lessened.

Rosenbusch thinks the period best suited for this sort of treatment is that of beginning disintegration of the apex; but he thinks

it of advantage even in the most advanced cases.

The method employed by Rosenbusch is to inject slowly, with a long needle, about thirty minims of the mixture of sweet-almond oil and vegetable creasote into the substance of the lung. The point to be chosen is where the part affected can be most easily reached. As the greater number of patients with phthisis are attacked at the apex of the lung, he generally injected through the second intercostal space in front or through the supra-spinous region at the back. In his experience, the injections gave little or no pain, and had no unfavorable effect. When he injected into a cavity or into a bronchial tube, the patient soon tasted creasote in his sputa. He recommends, naturally, that these injections be made with antiseptic precautions.

The strong commendation of this method by Rosenbusch has led others to test it, and Dr. T. Stachiewicz, of Görbersdorf, has followed Rosenbusch's method in a few cases. The results he obtained were not so favorable, however. In one of his cases, fever and hæmoptysis followed an injection, and the cough and expectoration increased. Notwithstanding this disappointment, Dr. Stachiewicz is disposed to think that intra-pulmonary injections of creasote may, perhaps, be of service where the cavities are superficial, or where there are hydatids or gangrene of the lung, and he suggests that it may, perhaps, be resorted to in some desperate cases of phthisis as a last resort.

This very temperate endorsement of the method of intra-pulmonary injections, which, as we have said, was first employed in our own country, seems to us quite justified by all the experience which has accumulated in regard to it. Perhaps even more might be said in its favor, and it may, in fact, deserve a place in the therapeutics of phthisis pulmonum in connection with other methods which have come into use with the most recent ideas as to the nature and proper treatment of this disease.

FAITH CURE.

The absurdities and errors of the leaders and disciples of the so-called "Faith Cure" movement have been repeatedly adverted to in medical and secular journals, and it is interesting to find that they are appreciated in theological circles also. In the *Forum*, August, 1888, the Rev. LEONARD WOOLSEY BACON, D.D.—and M.D. also—has an article entitled "The Faith Cure Delusion," in which, in his trenchant style, he exposes the weakness of the claim these people make, that their belief rests upon a Scriptural basis and is not amenable to the application of usual processes of logical reasoning. Such a claim should at least rest upon a correct citation of Scripture and a reasonable interpretation of it. But, as Dr. Bacon explains, the Faith Cure delusion can show neither the one nor the other. The passage from the Epistle of St. James which is constantly referred to as justifying the claims of Faith Cure is quoted as it appears in the English translation, which does not express the meaning or sense of the original Greek. The most striking defect is in the use of the word "anointing," in translating a Greek word which signifies inunction—the one implying a sacramental procedure, and the other a purely medical operation. An equally important error in the use of this text depends upon a misinterpretation of the injunction to "call for the elders of the Church" in case of sickness. As Dr. Bacon explains, this was an injunction to summon the oldest and most intelligent men in the Church, men wise in the management of cases of sickness, as well as in the comforting of those in religious distress, in order that they might administer at the same time spiritual consolation and medical treatment. The latter, in those days, often began with inunctions with oil, and it was this practice to which the writer of the Epistle plainly refers, since he uses a word which was commonly employed to describe it.

In the light of this rendering and interpretation of the passage referred to, the

claim of Scriptural sanction put forth by the leaders of the Faith Cure movement becomes as absurd as their practice is preposterous. And, even if it were admitted that a literal translation of the expression of St. James might seem to justify a hope that disease might be cured without the intervention of human agencies, the same expectation ought to be held in regard to the satisfying of hunger; for there are in the Bible as distinct promises of relief of the poor and hungry as of the sick. As Dr. Bacon says: "There is positively not one particle more of encouragement there for a 'faith hospital' without physicians or medicines than there is for a faith hotel, with neither kitchen nor victuals nor cooks" Thus it appears that those who cultivate the delusion of Faith Cure have no more warrant in Scripture than they have in medical science or common sense. Meanwhile a patient community tolerates their errors and permits a continuance of their mischievous work. The sick are deceived, weak minds are unhinged, homes are wrecked, and all by persons pretending a desire to do good, and claiming Divine authority for what they are doing. Surely it is time for the law to interfere and to restrain a class of persons who are utterly condemned by the two professions best fitted to judge of the merit of their claims and the effect of their practices.

MILK INSPECTION.

There is one thing which they seem to do pretty well in New York, namely, the inspection of the milk supply. This is due not so much to good laws as to the fact that they are executed by a most efficient and zealous public officer, Dr. R. H. Nevins, who carries out the duties of his office in a way which indicates his appreciation of its importance. One of the measures he adopts to make his inspections fulfill their object is to make sudden and unannounced descents upon milk dealers at the railway stations through which most of the milk supply of New York passes, and then to have the milk in their cans subjected to certain immediate tests by a number of his assistants, and to pour into the gutter the contents of any cans of milk which are below an appointed standard of purity. By this means he reaches more dealers than he can touch; for the fear of an unexpected test must keep many honest who would swerve from the right path if the inspections were made in any other way.

But, valuable as these tests may be, there is one which would, we think, be even more serviceable to the community; this is the inspection of the milk dealt from wagons and so-called milk depots in the poorest parts of large cities. A tour of inspection among the retailers of milk to the poor would, we think, do more to correct the horrible cheating which goes on in this article of food than all the investigations conducted at railway stations. Between the time when a pure milk leaves the inspector at this point, and that in which marasmatic children in the courts or alleys get the thin and spoiled liquid sold for milk, is where honest and intelligent inspectors would be of most service.

The systematic inspection of milk offered for sale is a part of the duty which the Government owes to those who are under its protection, and we wish there might be in every city an authorized corps of inspectors who might come down at any moment upon retailers of articles of food and drink, and hold them to account for what they furnish to their customers. This is the only way—and, if properly carried out, would, we believe, be a sure way—of suppressing the adulteration of food and drink, which is one of the greatest sins of this generation.

—M. R. W. Williams, of Cameron, Clinton County, Missouri, was fined $300 by a local magistrate for dispensing whiskey, although it was done upon the prescription of a physician. The Circuit Court affirmed the judgment of the magistrate, but the Supreme Court of the State has just reversed the decision of the lower court.

BOOK REVIEWS.

[Any book reviewed in these columns may be obtained upon receipt of price, from the office of the REPORTER.]

DISEASES OF WOMEN. By ARTHUR H. N. LEWERS, M.D., Lond., M.R.C.P. Lond., Assistant Obstretric Physician to the London Hospital, etc. 8vo, pp. xvi, 400. Philadelphia: P. Blakiston, Son & Co., 1888. Price, $2.25.

This is one of the best hand-books on the subject of diseases of women which we have ever seen. It opens with an admirable account of the way in which one should proceed in determining the nature of the trouble for which a woman seeks relief, and this goes into details in a manner which must prove exceptionably serviceable to those who have—as many medical men unfortunately have—to learn their gynecology without the assistance of personal instruction from masters in the art. After this, the various diseases and disorders peculiar to women are discussed systematically, beginning with disorders of menstruation and ending with nerve-prostration and hysteria. The various operations of gynecology, and the instruments with which they are performed, are well described and fully illustrated, and the details include descriptions of Apostoli's method of treating fibroids of the uterus, and Weir-Mitchell's "rest cure."

It is hard to do justice to a book like this in a limited space, but it is pleasant to be able to recommend such a book strongly to the attention of our readers. Its moderate price places it within the reach of all, and those who buy it will, we think, be as much pleased with its handsome appearance as with the literary and scientific character of its contents.

PAMPHLET NOTICES.

[Any reader of the REPORTER who desires a copy of a pamphlet noticed in these columns will doubtless secure it by addressing the author with a request *stating where the notice was seen* and enclosing a postage-stamp.]

HEART AND BLOOD-VESSELS IN THE YOUNG. By A. JACOBI, M.D., New York. From the *Brooklyn Medical Journal*, March, 1888. 19 pages.

THE RELATIONS OF MIND AND BODY. By H. R. HOPKINS, M.D., Buffalo, N. Y. From *The Medical Press of Western New York*, October, 1887.

AN IMPROVED SPHYGMOGRAPH AND ITS WORK. By H. R. HOPKINS, M.D., Buffalo, N. Y. From the *Medical Press of Western New York*. 10 pages.

THE ISCHIATIC CRUTCH. By A. B. JUDSON, M.D., New York. From the *Medical Record*, June 25, 1887. 8 pages.

—Dr. Jacobi's pamphlet contains the Address delivered before the Association of the Alumni of the Long Island College Hospital, February 27, 1888. It discusses the peculiarities of anatomy and function of the circulatory organs of children as compared with those of the same organs in adults. One of the most interesting features of this discussion is the reference to the methods of the ancients in studying the pulse; and we think it would be well if all medical men showed the same respect which Dr. Jacobi does for the shrewd observations of our predecessors, who, in the absence of such instruments of exact investigation as we possess, cultivated their natural resources to such a wonderful extent.

The whole of this Address is both interesting and instructive, especially as it treats of a subject which has not received as much attention as it deserves.

—Dr. Hopkins's pamphlet contains an Address delivered at the opening of the Forty-second Annual Session of the Medical Department of the University of Buffalo. In this Address, the writer makes an argument against materialism, and in favor of the belief in vital force and the independent existence of mind and soul. His argument is interesting, and the position to which it leads one which is hard to impugn successfully. There is still need for defending it, it is true; but the number of those who scoff at a belief in an immaterial essence in man is by no means so large as it once was, and it is pleasant to find one who speaks with authority to young men, starting them in their medical studies with a warning against the coarse and illogical conclusions of the materialists.

—Dr. Hopkins's paper contains an admirable argument for the use of the sphygmograph as an instrument of precise diagnosis, and a very strong recommendation of the instrument designed and made by Mr. A. M. Edwards, of Buffalo. Dr. Hopkins recognizes the fact that many observers have been disappointed in the use of the sphygmograph; but he attributes this disappointment to the use of imperfect instruments. The Edwards sphygmograph is, in his opinion, so excellent that it does not lead to disappointment, and it has, in his hands, given tracings which are of the greatest value in studying the phenomena of arterial tension. His pamphlet contains, incidentally, a good deal of interesting material in regard to the physiology of arterial tension, amply illustrated, and may be warmly commended to the attention of the readers of the REPORTER.

—Dr. Judson's pamphlet describes and illustrates a form of support which he has devised for use in cases of osteitis of the hip or knee-joint, in connection with a high sole on the foot of the sound side. The principles involved in its construction are not new, but the apparatus seems well adapted to its purpose, and it has proved entirely satisfactory in his practice. Its cost is moderate, and, altogether, it seems worthy of the notice of the profession.

LITERARY NOTES.

Littell's Living Age is one of the most welcome visitors to our table. For years it has furnished American readers with the cream of European literature, and those who have become accustomed to its fare could never, we think, give it up unless driven to do so by poverty. "Good wine needs no bush"; and it is hard to find new words as praise for what is so well known and so much admired.

The American edition of the *Illustrated London News* maintains its high standard of contents and illustration. Few weekly publications can compare with this in interest and attractiveness. The contents relate almost exclusively to European affairs and the dependencies of Great Britain; but they have a great deal of instruction in them for our countrymen. The illustrations are unusually fine and very numerous.

CORRESPONDENCE.

Notes on Diphtheria.

TO THE EDITOR.

Sir: Diphtheria is rather an old acquaintance. I treated my first case 34 years ago this month. I hardly knew then what to call it, but it died on time. I have treated it every year since then, with varying success, according to the violence of the particular epidemic.

It has no respect for persons, surroundings, or sanitary conditions: patients in the best being just as liable to die as those in the worst locations. Squalor and filth apparently exert no influence. Diphtheria and croup are not the same. Nineteen out of twenty cases of membranous croup will recover, if properly treated. Diphtheria treated in this way will all die.

It is certainly contagious in the true sense of the word. It can be communicated in all stages; but a convalescent, two weeks after the throat-symptoms have disappeared, is much more likely to communicate it. By far the greater number of cases that I have been able to trace to direct contagion have taken it by playing with such convalescents.

Girls are more liable to contract the disease than boys, and about three girls will die where one boy will, the greater extent of mucous surfaces probably being the reason. The peculiar eruption has been a fatal symptom in every case of it that I have seen; and, when the post-cervical lymphatics are enlarged, feeling under the skin like a handful of flat Lima beans, it is very safe to conclude that you are going to lose the patient, however mild the general symptoms may seem to be. Many children are lost by encouraging or allowing them to get up and play too soon, the heart-muscles not being able to stand any increase in amount of work.

As to treatment, we have none established for the disease. It is easier to find out what does no good than what does. I have heard an intelligent physician say, in our State Medical Society: "The reason that practitioners had such deplorable luck in treating diphtheria was because they did not know how to use quinine, iron, and chlorate of potash." It is probable that he had never seen a case of genuine malignant diphtheria. Experience has taught me not to use arterial sedatives; not to use chlorate of potash, for fear of kidney complication; that iron is useless, and quinine probably worse than useless. I have not given a dose of the latter medicine within the last 10 years, except it would be in a case of doubtful diagnosis in the first stages, and then I have almost invariably had cause to regret it. I am not able to explain just why, but I have been impressed that it exerts an unfavorable effect on the nervous system.

Having been a reader of medical literature, I tried every plausible plan of treating this terrible malady. I have come to the conclusion that remedies must be given with a view to their antiseptic properties. I generally commence with a decided mercurial cathartic, followed by antiseptics, mercurial or other, internally. Hydronaphthol is my favorite; it also keeps the house full of its fumes. Pilocarpine, sufficient to keep the saliva flowing moderately; oil of turpentine internally in teaspoonful to tablespoonful doses, according to age; papoid or trypsin applied to the exudation, both in powder and spray; nux vomica as a nerve tonic, with all the food possible to get them to take, using, with the food, stimulants to aid assimilation. No swabbing or picking at the throat. I have lately seen a case of malignant diphtheria in a child 7 years old recover under the above remedies, the turpentine being given in teaspoonful doses every two hours. I would not have given a penny for his chances when the treatment was commenced, the bronchial tubes being seriously obstructed.

A. ADY, M.D.

Muscatine, Iowa,
June 12, 1888.

NOTES AND COMMENTS.

A Centenarian.

The hundredth birthday of Col. George L. Perkins was celebrated at Norwich, Conn., recently. The old gentleman looks as if he were good for another hundred, is actively engaged in business, walks four miles to his office every day, and is as erect and strong as any man of sixty. When his family physician died, a few years ago, he offered the vacant place to a young doctor, but with the remark that there was some risk in accepting it, as he had buried seven of his doctors already! He is full of reminiscences of the earlier years of the century, one of these being his ride on Robert Fulton's first steamboat on her trial trip. He was nineteen years younger than Napoleon, and was born in the same year with Byron.—*Philadelphia American.*

Hygienic Conditions in Memphis.

Charles Dudley Warner says: Ever since Memphis took itself in hand with a new kind of municipal government, and made itself a healthful city, good fortune of one kind and another seems to have attended it. Abundant water it could get from the river for sewerage purposes, but for other uses either extensive filters were needed or cisterns were resorted to. The city was supplied with water which the stranger would hesitate to drink or bathe in, from Wolf River, a small stream emptying into the Mississippi above the city. But within the year a most important discovery has been made for the health and prosperity of the town. This was the striking, in the depression of the Gayoso Bayou, at a depth of 450 feet, perfectly pure water, at a temperature of about 62°, in abundance, with a head sufficient to bring it in fountains some feet above the level of the ground. Ten wells had been sunk, and the water flowing was estimated at ten millions of gallons daily, or half enough to supply the city. It was expected that with more wells the supply would be sufficient for all purposes, and then Memphis will have drinking-water not excelled in purity by that of any city in the land. It is not to be wondered at that this incalculable good fortune should add buoyancy to the business, and even to the advance in the price, of real estate. The city has widely outgrown its corporate limits, there is activity in building and improvements in all the pleasant suburbs, and, with the new pavements which are in progress, the city will be as attractive as it is prosperous.

Climate is much a matter of taste. The whole area of the alluvial land of the Mississippi has the three requisites for malaria—heat, moisture, and vegetable decomposition. The tendency to this is overcome, in a measure, as the land is thoroughly drained and cultivated. Memphis has a mild winter, long summer, and a considerable portion of the year when the temperature is just about right for enjoyment. In the table of temperature for 1887, I find that the mean was 61.9°, the mean of the highest by months was 84.9°, and the mean lowest was 37.4°. The coldest month was January, when the range of the thermometer was from 72.2° to 4.3°, and the hottest was July, when the range was from 99° to 67.3°. There is a preponderance of fair sunny weather. The record for 1887 was: 157 days of clear, 132 fair, 65 cloudy, 91 days of frost. From this it appears that Memphis has a pretty agreeable climate for those who do not insist upon a good deal of "bracing," and it has a most genial and hospitable society.—*Harper's Magazine*, September, 1888.

Nurses and Nursing.

To fulfill her duty wherever she may find herself, and to give satisfaction to all, a nurse must possess infinite tact and patience, be a rapid observer, and quick to read the characters of those with whom she comes in contact. The cheerfulness which may brighten one patient may be regarded as obtrusive chatter by another; the constant attentions which will soothe one will irritate the next. The nurse who pleases all must indeed be a wonder. It is reported that a celebrated physician remarked to a patient whom a constant succession of nurses had failed to satisfy: "You had better send to heaven, my dear sir, and demand a hospital-trained angel with a cast-iron back." The financial circumstances of these nurses are a little better than those of their hospital sisters, but their duties are every whit as trying. When the doctor lives far away, the responsibility they incur in cases of danger is great, and often their periods of rest are constantly broken by anxious friends. And frequently, when the patient gets better, the nurse is regarded as a nuisance, and her former devotion is forgotten. It is to be regretted that some institutions, which are merely business speculations, choose their nurses with so little discrimination that discreditable specimens are sometimes met with who throw disgrace on the entire community. As a matter of fact, perfection is no more to be found among nurses than other human beings, and yet these women must be sustained by worthy motives to labor so diligently for so scant an earthly reward. It will indeed be a blessing to many to think that the nurses are to have the practical benefit of a charitable scheme, and that the cases of destitution and misery in their ranks, of which every matron has had cognizance, will now be tales of the past. It is these heroic women who find their way into every household, from the castle to the cellar tenement; who, wherever pain and sickness are rife, come with skilful hands and sympathizing hearts to heal and bless. Facing without fear the risk of infection, a nurse will make her home in a fever hospital; or, beside the dying bed of some poor wretch, will risk contagion of an even more fearful nature. These are the women who never bow down to what Mr. Stevenson calls the "bestial goddess of Comfort and Respecta-

bility"; who can perform the most menial services with dignity, and to whom nothing is common or unclean. These are the women who carry, wherever they go, an atmosphere of noble labor and unselfish enterprise which brings to this work-a-day world a gleam of the glory to come. It is the nurse whose purity and truth break through the crust of skepticism with which our souls were crusted over, and open once more the stream of love and faith which flooded our being in our youth. Before the keen light of earnestness in a nurse's eyes, the froth and frivolity of social life dry up to nothing, and in their stead grow noble aspirations. The influence exercised far and wide by a nurse is almost unbounded, and, if she is actuated by the fervent love of humanity which urges many women to undertake this work, she can carry everywhere with her a glorious torch to light all upward toward more sublime and unselfish aims, lifting them for awhile above the trivial commonplaceness of which too many of us are liable to allow our lives to consist.—*Westminster Review.*

Faith Cure.

On August 19, John Elsey, the founder of the Elsey Memorial Chapel and the millionaire fish-dealer in Washington Market, New York, was baptized in Newark Bay. The faithcurists turned out in large number to take part in the service, and seven others were also baptized. While waiting for the flow of the tide, a meeting was held around the little platform Mr. Elsey has had erected in an opening in the woods. Several men and women told their experience. Mr. Elsey spoke about fifteen minutes. He said that by the faith cure he and his wife had been made whole, his son cured of drunkenness, and his daughter of consumption.

Elusive Hydrophobia Germs.

Saul may be said to be among the prophets when the New York *Herald* finds anything incredible or absurd in regard to hydrophobia. But even this has come to pass. The *Herald*, August 8, 1888, published the following amusing and suggestive item, headed "Elusive Hydrophobia Germs. They passed from dog to horse, and the hens barely escaped.

"A valuable horse, owned by the Smith Trucking Company, on Canton Street, near Park Avenue, Brooklyn, was attacked by hydrophobia some weeks ago, and, as mentioned in yesterday's *Herald*, was shot by an officer of the Society for the Prevention of Cruelty to Animals on Monday last. Yesterday it was reported that some chickens had eaten oats that the horse had failed to swallow, and had also gone mad.

"A *Herald* reporter visited the stable on Canton Street yesterday, expecting to find a number of mad chickens; but he was doomed to disappointment, for the chickens were stubborn, and refused to bark like a dog or whine like a horse. They, however, crowed lustily.

"'If they had eaten the oats,' said an employé of the company, 'the results might have been very painful. Now, just see what might have happened, but which, happily, did not: The chickens might have gone mad and then laid a lot of eggs, which would have been eaten by human beings, and thus the persons who ate the eggs might have commenced to crow like chickens, neigh like horses, or bark like dogs.'"

Policeman's Diagnosis of Hydrophobia.

The daily papers state that a policeman found a colored man on last Saturday afternoon, at Seventeenth and Spring Garden Streets, rolling around in the street and frothing at the mouth. Thinking that the man had hydrophobia, he is said to have procured a rope and fastened him to a tree, summoned the patrol wagon and had him removed to the Philadelphia Hospital. It was found that the man was suffering from a severe attack of colic.

Detection of Iodine in the Urine.

Iodine is best detected in the urine by adding to half an ounce of the fluid, in a test-tube, 40 minims of dilute sulphuric acid and 20 minims of chloroform, or of bisulphide of carbon, and, finally, a few drops of a one per cent. solution of sodium nitrite, closing the tube and shaking well. If iodine is present, the chloroform assumes an amethystine tinge. Freshly-made starch paste may be used instead of the chloroform, and will give to the fluid a blue color if iodides are present.—*Pharmaceutical Era*, July, 1888.

Removing Indelible Ink.

Physicians are often asked how to remove indelible ink, and they sometimes cannot quite remember; so we repeat the following method: First moisten the stain with tincture of iodine, and, after a few minutes, remove the iodine stain with solution of hyposulphite of soda. Finally wash in clean water. Repeat if necessary.

The Juniata Valley Medical Association.

The thirteenth annual meeting of the Juniata Valley Medical Association was held August 14, at Cresson.

The Association was presided over by Vice-President Dr. J. P. Sterrett, of Pittsburg, and physicians were present from Harrisburg to Pittsburg. Several new members were elected.

An interesting paper on hygiene was read by Dr. W. F. Bishop, of Harrisburg, which led to a lively and edifying discussion. Dr. Bishop closed with a lucid exposition of the necessity for pure air and water, and plenty of both, for the maintenance of personal and public comfort and health. The most remarkable feature of the meeting was the adoption of the following resolution:

Resolved, That the charges made at the late meeting of the Pennsylvania State Medical Society by the aiders and abettors of a State board of licensers and examiners that the medical colleges of our State are corrupt and venal, and the medical profession of Pennsylvania is in a debased and degraded condition, are false and slanderous, and are hereby publicly and emphatically rebuked.

The Secretary was directed to furnish our Representatives and Senators with a copy of the above resolution, with a request that they oppose the establishment of such a board of examiners and licensers.

American Rhinological Society.

The Sixth Annual Meeting of the American Rhinological Society will be held at the Gibson House, Cincinnati, Ohio, September 12, 13, and 14, 1888. An interesting series of papers and discussions is on the programme. Dr. C. H. Von Klein, Dayton, Ohio, is President; and Dr. John North, Keokuk, Iowa, Secretary and Treasurer.

Mississippi Valley Medical Association.

This Association will meet in Pickwick Theatre, Jefferson and Washington Avenues, in St. Louis, September 25, 26, and 27, 1888, two weeks later than first announced. This date was selected in order that the cheap railway rates during the carnival season in St. Louis might be made available.

For further information, address I. N. Love, M.D., Chairman Committee Arrangements, Lindell and Grand Aves., St. Louis.

NEWS.

—Dr. J. W. Arnold is reported to have been shot and killed by W. J. McMath, near Shreveport, Louisiana, on August 29.

—Professor Gerhardt has been elected Rector Magnificus of the University of Berlin. Dr. Waldeyer is to be Dean of the Faculty.

—Dr. Walter L. Ranney died in New York City, August 17. He was graduated from the University of the City of New York in 1880.

—Paul Langerhaus, formerly Prosector in the University of Freiburg, died of phthisis, in Funchal, Madeira. He was only thirty-nine years old.

—Dr. William Preyer, Professor of Physiology at the University of Jena, and, next to Haeckel, its greatest scientific ornament, intends, it is stated, to resign his position and remove to Berlin.

—Yellow fever is still on the increase in Jacksonville, Fla. Twenty-four new cases of yellow fever and two deaths were reported in Jacksonville, September 1. The total number of cases up to that time was 258; total number of deaths, 34.

—The Trustees of the Ohio State College have elected Professor David S. Kellicott, of Buffalo, to the Chair of Zoology and Comparative Anatomy, the position made vacant by Professor A. H. Tuttle, who goes to the University of Virginia.

—Mr. Lawson Tait, the distinguished surgeon, of Birmingham, England, writes to a friend in this city that he will not be able to attend the Congress of American Physicians and Surgeons, to be held in Washington during this month.

—The *Lancet*, August 18, 1888, announces that Sir Morell Mackenzie's reply to the charges of the German physicians will soon be issued simultaneously in German and English. The English edition will be published by Messrs. Sampson, Low, Marston & Co.

—Dr. Joseph Moore, of Bridgeton, was struck by a train near Bridgeton, September 1, and injured so badly that he died soon afterward. He was driving in his carriage, when the horse became unmanageable and sprang in front of the train. The Doctor was thrown several feet in the air, and fell on his head.

—A Connecticut physician has stated his belief that fresh air, especially at night, is a necessity in the treatment of cholera infantum. The New Haven *News* adds that

lately it has not been uncommon to see a baby-carriage, containing a little sufferer, wheeled by a devoted parent all night long on Fair Haven Heights.

—The *Chemist and Druggist*, August 11, 1888, says that one of the latest uses of saccharin is as an addition to whiskey in place of liqueurs. One-quarter ounce suffices for a hogshead of whiskey, and it is said that it immediately increases the value of the article by exerting a maturing influence upon the spirits. It is certain, at least, that it mellows the flavor of the spirits considerably.

HUMOR.

HE IS A FORTUNATE doctor, says the Philadelphia *Ledger*, who can let off bulletins without feeling their recoil.

THE MAN WHO SAYS he will welcome death as a release from a life made up of sorrow, generally sends for four doctors when he has the colic.

BETTER THAN A BURIAL—Cholly: "I say, Binx, did you ever witness a burial at sea?" Binx: "No, never saw a burial, but we had a wake all the way over, last trip."—*Harper's Bazar.*

A: "WHAT DENTIST made your teeth for you?" B: "These are my own teeth. No dentist made them." "You don't say so! How deceptive they are! Why, they look as nice as the best kind of false teeth. What a wonderful thing nature is."

MAMMA: "Did you have a nice time at the party, Harry?" Harry: "Oh, yes, splendid! I had five kinds of cake. First I had some sponge-cake and chocolate-cake, and then I had jelly-cake and cream-cake, and then I had the stomach-cake."

A HANDSOME PROFIT.—Aunt Emily: "Why do you think you will be a doctor, Bobby, when you grow up?" Bobby: "Because I swallowed a ten-cent piece the other day, and the doctor charged pa two dollars for curing me. That's a good business."—*Epoch.*

ABOUT SEVEN YEARS AGO, George W. Mitchell, of Palatka, Fla., falling against a cactus-plant, one of its thorns entered the calf of his leg. Several weeks later, the thorn was withdrawn from a swelling on his chin. This story is a welcome change from the old newspaper item about a girl running a needle into her thumb, which caused her no pain until six years subsequently, when it was removed from the ankle of her brother-in-law; but it is about as hard on a man's credulity.

OBITUARY.

RANDOLPH S. HITTELL, M.D.

Dr. Randolph S. Hittell, of Argentine, Kansas, a graduate of the Jefferson Medical College, Class of 1870, died March 9, 1888, aged 37 years. By his death the profession lost one of its best surgeons in the Southwest. He was a native of Allentown, Pennsylvania. He was Assistant Surgeon in the Prussian Army during the Franco-Prussian War of 1870–'71. After the war, he returned to Philadelphia, where he practiced medicine for about two years, when he removed to the West, and he became noted as one of the finest surgeons of the country. The cause of his death was typhoid fever.

JAMES SUDDARDS, M.D.

Medical Inspector James Suddards, U.S.N., died at Atlantic City, N. J., August 31. He was graduated from the University of Pennsylvania in 1847. Dr. Suddards entered the United States Navy, May 17, 1849, when he was commissioned an Assistant Surgeon, from which position he was advanced, in April, 1861, to Surgeon. On March 3, 1871, he became Medical Inspector, and, on April 5, 1875, he was made Medical Director. At the time of his death, he was President of the Medical Examining Board, to which he was appointed on April 22, 1884.

THOMAS T. SABINE, M.D.

Dr. Thomas T. Sabine, Professor of Anatomy in the College of Physicians and Surgeons, New York, died August 23 He was graduated from the College of Physicians and Surgeons in 1864, and subsequently served on the house staff of the New York Hospital. While in this position, he showed signs of lung-disease, and subsequently developed marked disease of the lung, which eventually proved fatal.

R. H. MILNER, M.D.

Dr. R. H. Milner, of Chester, Penna., shot himself, near Crum Lynne Station, August 29, 1888. He had been a sufferer with lung-disease for some time before his death, and, for several days during the week before his death, was confined to bed.

He was 47 years old, and was graduated from the Medical Department of the University of Pennsylvania in 1868. Dr. Milner was held in the highest esteem by his neighbors and professional associates. The disease from which he suffered is said to have been contracted during the late war. He leaves only one child, a daughter five years old. His wife died three years ago.